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THESIS

INVOLVING CORPORATIONS IN DISPENSING DURING MASS PROPHYLAXIS

by

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March 2007

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13. ABSTRACT (maximum 200 words)

The purpose of the mass prophylaxis following a bioterrorist attack is to reduce fear within the community and to reduce loss of life to the disease. Current U.S. government guidance provided by the Department of Health and Human Services Centers for Disease Control and Prevention (CDC) for response to an anthrax attack states that the optimal amount of time for distribution of prophylaxis to the community is two days. Yet, how can the public health agencies of a state dispense antibiotics to everyone in a large metropolitan area within forty-eight hours of potential exposure?

A key challenge to a successful mass prophylaxis campaign is staffing the functions required to receive, stage, transport, deliver, and dispense antibiotics. Is there value in developing relationships with large corporations within the metropolitan area to support their active involvement as reliable, effective, and efficient volunteer entities for dispensing pharmaceuticals following a terrorist incident or natural disaster? This thesis evaluates the novel approach of inviting corporations to act as volunteer entities in and of themselves (rather than merely offering their facilities for use to support a government activity) as well as more traditional options such as utilizing the current public health force (supported by traditional volunteer recruitment) and using the United States Postal Service to directly deliver medication to households. A fourth option, combining the first three options to meet the requirements of timely delivery, security, medical personnel support, nonmedical personnel support, and client information collection is also considered.

Any strategic option for distributing prophylaxis should address the following fundamental questions:

- Does the option encourage community ownership of the problem?
- Does the option provide for better response time to the problem?
- Does the option increase the number of people who can be served within a given timeframe?
- Does the option increase the availability of medical care providers to support screening and dispensing?
- Does the option reduce security personnel requirements?
- Does the option support gathering needed information about the people who receive the medication?
- Does the option provide redress for clients in the event of an adverse medication side effect?
- Does the option require new legislation or changes to existing legislation?
- Does the option increase the availability of nonmedical support personnel for dispensing activities?

The thesis compares the four primary strategic options based on how well they address each of these fundamental questions. This thesis provides informed consideration of policy options for community leaders who are addressing the need to rapidly dispense medications, based on combining public and private resources to meet the needs of the community.

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INVOLVING CORPORATIONS IN DISPENSING DURING MASS PROPHYLAXIS

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A key challenge to a successful mass prophylaxis campaign is staffing the functions required to receive, stage, transport, deliver, and dispense antibiotics. Is there value in developing relationships with large corporations within the metropolitan area to support their active involvement as reliable, effective, and efficient volunteer entities for dispensing pharmaceuticals following a terrorist incident or natural disaster? This thesis evaluates the novel approach of inviting corporations to act as volunteer entities in and of themselves (rather than merely offering their facilities for use to support a government activity) as well as more traditional options such as utilizing the current public health force (supported by traditional volunteer recruitment) and using the United States Postal Service to directly deliver medication to households. A fourth option, combining the first three options to meet the requirements of timely delivery, security, medical personnel support, nonmedical personnel support, and client information collection is also considered.

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TABLE OF CONTENTS

LIST OF FIGURES

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LIST OF TABLES

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To my family, my thanks for giving me the space I needed to pursue this goal. Finally, I dedicate this thesis to my father, Chester Lee Smith, Sr., a man of compassion and concern for those less fortunate than he, who departed this world the week before I began the graduate program.

I. INTRODUCTION

A. DESCRIPTION OF THE PROBLEM

The purpose of mass prophylaxis is to ease fear within the community following a bioterrorist attack and to reduce loss of life to the disease. The current planning guidance provided to state public health agencies by the Department of Health and Human Services (DHHS) Centers for Disease Control and Prevention (CDC) for responding to an attack establishes the amount of time for optimal use of mass prophylaxis for anthrax as two days. Can state public health agencies dispense antibiotics to all residents of a large metropolitan area within forty-eight hours of potential exposure? With an estimated population of 4.8 million people in the Atlanta Metropolitan Statistical Area (MSA), local public health agencies within the MSA must collectively treat more than 100,000 persons every hour.[1] To meet the dispensing requirement, public health agencies must minimize the time needed to receive, stage, transport, deliver, and dispense antibiotics.

As the four actions framework depicted in Figure 1.1 illustrates, state and local public health agencies must consider what actions will effectively change the delivery of antibiotics in response to a terrorist use of anthrax as a biological agent. The actions taken to support Strategic National Stockpile (SNS) operations must achieve strategic change in community support, reduce fear, and build more confidence in the disaster response ability to save more lives, in part by eliminating the uncertainty that currently exists in the support for dispensing site operations. The public health organizations need to assist in the creation of greater community ownership of both the problem and the solution, as well as to clearly identify the resources within the community to support further preparedness and response. To prepare to better respond, local public health officials and the community must increase general awareness of the issues involved and encourage participation by nontraditional partner groups.

[1] This estimate assumes 24-hour dispensing site operations. The numbers of personnel required are even greater if the hours of operation are decreased.

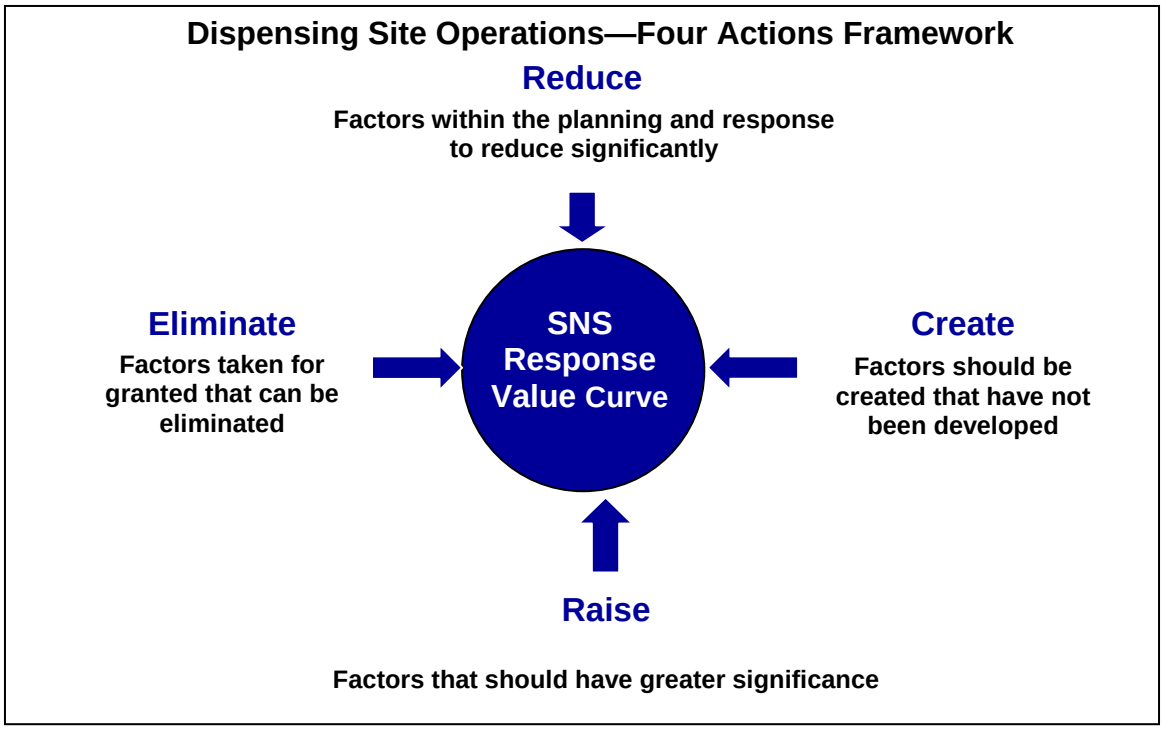

Figure 1.1 A Four Actions Framework for Dispensing Site Operations (After Kim and Mauborgne)[2]

B. BACKGROUND

The terrorist attacks on 9/11 changed the strategic dynamic of the nation's approach to homeland security. The anthrax attacks that followed in October 2001 identified key issues of public health preparedness and effective response to bioterrorism. As a result, the CDC suddenly found itself at the forefront of homeland security concerns. Although much federal, state, and local planning and emphasis have been placed on the SNS, the SNS program does not have assigned assets to distribute or dispense supplies in response to a bioterrorism event. Therefore, the distribution and dispensing of supplies in response to the continued threat of a bioterrorism attack remains problematic.

The CDC has delegated the distribution responsibilities associated with the stockpile of supplies to the state public health and emergency management agencies. Within the states, the responsibility for the planning and preparation for

[2] The idea for this representation of a Network-Centric Response Curve is taken from W. Chan Kim and Renée Mauborgne, *Blue Ocean Strategy* (Cambridge, MA: Harvard Business School Press, 2005).

mass prophylaxis dispensing falls to local public health departments, emergency management, and law enforcement agencies. Within their normal operating parameters, these local elements possess neither the assets nor the capacity to meet the full requirement. Essentially, there is a gap between the dispensing strategies envisioned by the federal and state governments and the actual local ability to rapidly dispense supplies for a mass prophylaxis effort. Flawed expectations, poor management, and ineffective response plans have resulted in the federal, state, and local governments' collective inability to adequately address this gap.

The CDC Division of Strategic National Stockpile (DSNS) is intended to respond quickly to assist any community reacting to a successful terrorist release of a biological agent in an attack upon a metropolitan area in the United States. Within twelve hours of the federal government's determination that the situation warrants this support, the DSNS will respond by deploying the assets of the SNS (i.e., antibiotics and other medical supplies), accompanied by a small team of logistics specialists called the Technical Assistance Response Unit (TARU). The TARU will assist the Receiving, Storing, and Staging (RSS) site personnel with technical support. Using push packs of seven or eight fifty-three-foot tractor trailers, each holding about fifty tons of supplies, the SNS program provides pharmaceutical and limited medical supply support to the requesting state. The DSNS does not, however, provide dispensing team personnel, facilities, or transportation support beyond the delivery of the supplies to a state-identified receiving site.[3]

When the push pack arrives at the state's designated RSS site, a designated, qualified representative of the state will sign for the push pack. At that time, the contents of the push pack become state assets. State and local personnel assigned to emergency response duties at the RSS site organize the supplies into packages for use by local dispensing sites, sometimes referred to

[3] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, *Receiving, Distributing, and Dispensing Strategic National Stockpile Assets, A Guide for Preparedness,* Version 10.02—Draft, Atlanta, Centers for Disease Control and Prevention, (August 2006).

as points of dispensing (PODs). From the dispensing sites, public health employees and their volunteer assistants provide antibiotics to the community. As previously mentioned, the current CDC dispensing guidance for anthrax recommends providing the antibiotics to the potentially exposed population within forty-eight hours of the initial detection and identification of the agent. Completing the mass prophylaxis within this forty-eight-hour window will achieve optimum benefit of post-exposure prophylaxis among those people who have inhaled anthrax spores.[4]

To address the need for rapid mass prophylaxis throughout a large metropolitan area, CDC implemented the Cities Readiness Initiative (CRI) in selected cities.[5] The CRI, which is a component of the CDC's SNS program, was developed to add support for the planning and preparation for dispensing antibiotics to an entire metropolitan area within forty-eight hours. Since October 2001, state and local public health agencies have been working with the CDC SNS planners to improve the capacity and capability to quickly and efficiently distribute pharmaceutical supplies and to dispense antibiotics to large numbers of people. Initially, these planning efforts focused on smallpox vaccination clinics. The guidance provided for response to a smallpox release recommended that vaccination clinics conclude treatment of affected communities within three to five days. For planning purposes, the size of the population to be vaccinated was tempered by consideration of a ring vaccination plan looking to reach contacts of contacts. Immediate vaccination of the entire population of a metropolitan area was not considered as part of this initial SNS planning.

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[4] Dena M. Bravata, Gregory S. Zaric, Jon-Erik C. Holty, Margaret L. Brandeau, Emilee R. Wilhelm, Kathryn M. McDonald, and Douglas K. Owens, "Reducing Mortality from Anthrax Bioterrorism: Strategies for Stockpiling and Dispensing Medical and Pharmaceutical Supplies," *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 4, no. 3 (2006): 253–254.

[5] U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, *Cities Readiness Initiative: Q&A about the Cities Readiness Initiative Pilot Program,* http://www.bt.cdc.gov/cri/qa.asp (accessed June 3, 2006). This program has since been expanded to include additional metropolitan areas and now covers at least one metropolitan area in each state.

The CDC and the Department of Homeland Security (DHS) now consider an event involving anthrax as the worst-case scenario for prophylaxis requirements. Federal, state, and private organizations have purchased and deployed a variety of environmental sampling systems and automated biological agent detection systems throughout the country.[6] Some of these systems focus on anthrax alone. Others allow for testing for a wide variety of agents. State and local public health organizations, with their laboratory networks and mass dispensing expertise, have been approached as planning partners for response to any positive test results or alarms from these systems. As the medical and public health disciplines have developed a better understanding of anthrax, they have realized that to save the greatest possible number of lives the timeline for distribution and dispensing of medication must be shorter than had been planned for smallpox. Public health response planners must plan for dispensing prophylaxis to more people in less time than that recommended for smallpox vaccinations.[7] The clock on the forty-eight-hour deadline begins with the first identification of the agent, regardless of the circumstances in which that identification might occur.

The timeline established for response to an anthrax incident has put new pressures on the local dispensing site efforts. Much has been accomplished by the states in preparation for receiving and staging the supplies available through the SNS. Primary and alternate RSS sites have been identified. Key staff have been identified and trained. Now the planning and preparation focus has shifted from the RSS sites to the dispensing sites. The timely activation and staffing of the dispensing sites by local public health organizations requires many readily available and prepared personnel to support the receiving and dispensing sites. This is a major obstacle in meeting the expectation of 100 percent prophylaxis of a city's population within the designated time.

[6] Examples include the U.S. Department of Homeland Security BioWatch and the United States Postal Service Biohazard Detection System.

[7] Bravata et al., "Reducing Mortality," 245.

The staffing required for receiving and distributing the stockpile from the RSS site is small compared to the number of staff required to conduct mass prophylaxis dispensing site operations. The CDC guidance for dispensing site operations suggests that the metropolitan public health agencies may have to train thousands of people to meet the key dispensing site personnel needs.[8] This increased support requirement clearly places a greatly increased burden on local public health, medical, and emergency management personnel as they plan for dispensing medication to large numbers of possibly exposed people.

A compounding issue for dispensing site planners is the requirement that medical professionals directly supervise the dispensing of medication. This requirement for people with specialized skills varies from state to state, as state laws concerning emergency response and pharmaceutical dispensing differ. Changes in legislation may ease this burden, but current planning measures must consider this limiting issue, particularly given that public health is competing with other agencies and organizations seeking specialized, qualified support. While volunteers are needed for the distribution and dispensing sites, hospitals and medical clinics will likely need clinical professionals to support the increased tempo of operations their facilities will experience as more patients seek either preventive treatment or care for an illness related to the possible biological attack. With estimates for the number of volunteers needed within metropolitan areas ranging into the tens of thousands to assist in the operation of dispensing sites,[9] new alternative volunteer resources must be considered for public health to meet the need for a quick, safe, and efficient response.

Consideration must also be given to locating facilities and transportation support. The CDC guidance indicates that identifying well known and easily accessible locations is another important part of the planning effort that supports speedy delivery of the medication. During CDC DSNS technical assessment

[8] CDC, *Receiving, Distributing, and Dispensing,* 12-22.

[9] The author has engaged in multiple discussions with local public health officials within the Atlanta metropolitan statistical area, which indicate great concern with the number of volunteers required to achieve a throughput adequate to reach 100 percent of the community within forty-eight hours.

visits, identifying transportation support and resources for the dispensing sites also surfaced as an issue for the supported state and local public health agencies.[10]

Despite all of this attention, there are local resources that have yet to be considered fully. Community partners, including major businesses, may help fill the gap. In particular, what role can large businesses play in mass prophylaxis? Large businesses have substantial numbers of employees, facilities, and other essential resources that are pre-positioned within potentially affected communities. Is there value in developing relationships with large corporations within the metropolitan area to support their active involvement as reliable, effective, and efficient volunteer entities in the effort to dispense pharmaceuticals following a terrorist incident or natural disaster?

The process chart in Figure 1.2 provides a summary view of the activities that must be accomplished prior to a community conducting dispensing site operations with DSNS support. It serves as a primer for discussions concerning mass prophylaxis planning and response. It also shows the division of responsibilities: the state focus is on distribution to identified dispensing sites, while the local focus is on the dispensing of antibiotics.

Figure 1.2 clearly demonstrates the need for planning, asset identification, and resolution of implementation conflicts among multiple agencies. With the goal of 100 percent prophylaxis within forty-eight hours, coordination and collaboration among the agencies is crucial to success. For a large metropolitan area, the coordinated use of every resource available will be necessary.

[10] Taken from author's notes and post–site visit reports for the eighteen health districts in Georgia, conference discussions among representatives of the CDC, State SNS Coordinators and Directors of Public Health Preparedness, and multiple state after-action reports from SNS exercises.

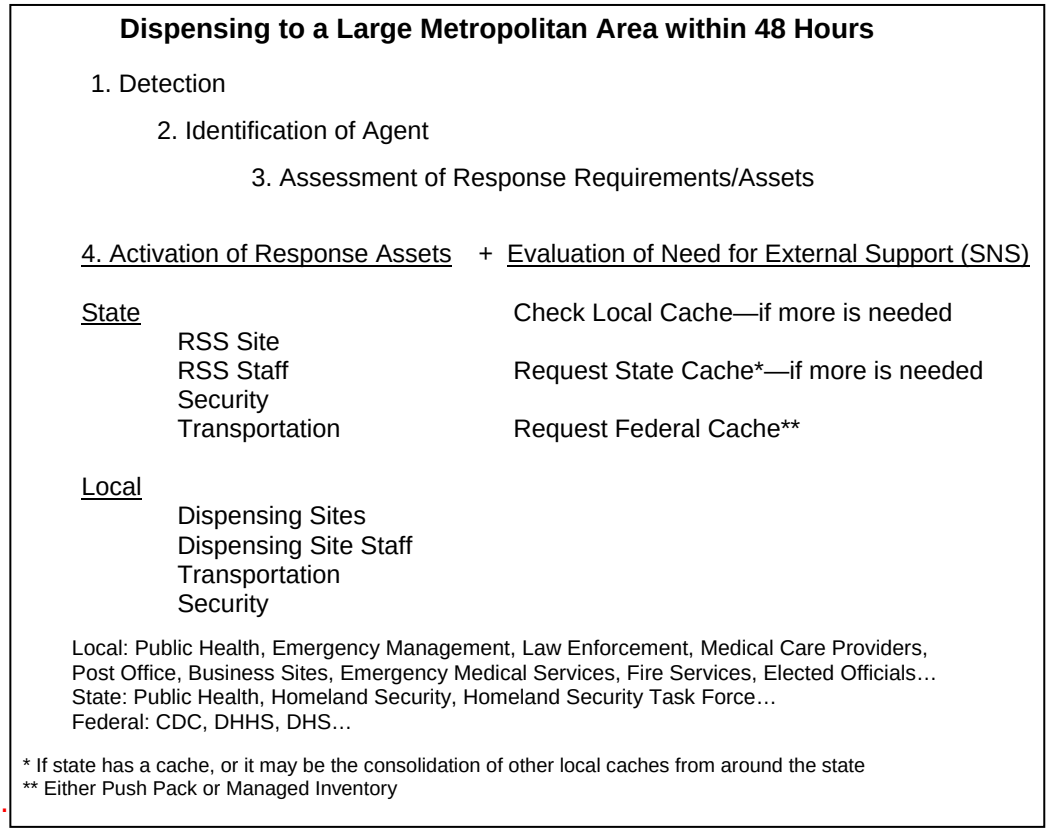

Figure 1.2 Summary of Dispensing Site Process

C. THESIS STRUCTURE

This thesis is organized into five chapters to address this policy question. Chapter I provides an introduction to the problem, background for the problem, the structure of the thesis, a review of literature associated with the problem, and a discussion of the methodology used to develop this policy assessment. Chapter II addresses the CDC guidance concerning the SNS and the CRI emphasis for metropolitan areas, state, and local resources for meeting the guidance, and identified shortfalls at the state and local levels. Chapter III reviews four possible options for response: the current plan, for public health supported by traditional volunteer means; the U.S. Postal Service (USPS) option; the institutional support model using corporate entities as volunteer organizations; and the option of combining all of the above. Chapter IV provides an analysis of the options using a stated range of criteria and a comparison of

the four options being considered at this time. Chapter V addresses implementation hurdles, policy implications of the findings, and possible further investigations into solutions for rapid dispensing.

D. REVIEW OF LITERATURE

An examination of the current research suggests that great effort has gone into searching for solutions to the challenge of providing support to the communities in detecting and responding to a bioterrorist event. However, how best to access and maintain large numbers and types of volunteers has not been fully addressed. Volunteers are critical to successful dispensing of medication to the full population of a metropolitan area when given a very short timeline. Following the attacks of September 2001, studies and workshops were conducted to address the government's pursuit of more nongovernmental organizations to assist in meeting the requirements for response to the terrorist threat.[11] Other studies recommended public-private collaboration in technology and services, such as laboratory networks, surveillance systems, and critical infrastructure protection.[12] The call for collaboration between business and government was extended not only to private businesses, but also to nonprofit organizations to determine how best to meet the response needs.[13] These documents provided a new emphasis for developing public-private partnerships, which will be explored as part of this thesis.

Preparations for distribution and dispensing of medication by public health and emergency management agencies began well before the terrorist attacks of 2001. For example, the unclassified abstract of *Presidential Decision Directive (PDD) 62*, signed and released for general planning purposes in 1998, stated that the Public Health Service would be the lead federal agency for planning,

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[11] Charles P. Connelly, "The Role of Private Security in Combating Terrorism" (Presentation given at the Major Cities Chiefs/National Executive Institute's Annual Conference, Sun Valley, Idaho, June 2003), http://www.neiassociates.org/privatesecurity.htm (accessed June 10, 2006).

[12] R. Scott Fosler, *Changing Roles, Changing Relationships: The New Challenge for Business, Nonprofit Organizations, and Government* (New York, NY: The Three Sector Initiative, 2002).

[13] R. Scott Fosler, *Working Better Together: How Government, Business, and Nonprofit Organizations Can Achieve Public Purposes Through Cross Sector Collaboration, Alliances, and Partnerships* (New York, NY: The Three Sector Initiative, 2002).

preparing, and responding to medical emergencies related to the use of weapons of mass destruction. The responsibilities associated with this directive included stockpiling various pharmaceutical supplies needed for response to a disaster.[14] This was the beginning of the National Pharmaceutical Stockpile, now known as the Strategic National Stockpile.

In 2002, the CDC, in its *Cooperative Agreement Guidance for Public Health Preparedness* (the mechanism that CDC uses to fund state public health preparedness programs), required each of the participating states and territories to develop a plan for rapid receipt and distribution of the contents.[15] The initial CDC efforts focused on the delivery to and receipt by the states. Planning by the states emphasized the activities at the RSS sites. Some states also developed plans for distribution hubs as intermediate sites between the RSS and the dispensing sites[16]. Evaluations of state preparedness completed by the CDC (now referred to as technical reviews) addressed the capability of the state to receive the stockpile. A state was declared "green" when the evaluations indicated that the state was reasonably capable of opening a warehouse, unloading several freight trucks, and aligning the contents to support local redistribution in a timely manner. The evaluations now look at the ability to conduct RSS site and dispensing operations. The CDC assessment reports from November 2004 noted that identifying and training personnel for staffing the dispensing sites in adequate numbers was a problem.[17] These evaluations have

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[14] "Protection Against Unconventional Threats to the Homeland and Americans Overseas," *Presidential Decision Directive 62* (Washington, DC: Government Printing Office, May 22, 1998). http://permanent.access.gpo.gov/lps9890/lps9890/www.ojp.usdoj.gov/osldps/lib_pdd62.htm (accessed June 10, 2006).

[15] U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, *2002 Critical Benchmarks (by Focus Area)*, http://www.bt.cdc.gov/planning/continuationguidance/pdf/appendix-8.pdf (accessed June 10, 2006).

[16] Author's discussions with DSNS consultants assigned to Georgia, October 2006.

[17] U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, *CDC Strategic National Stockpile CRI Baseline Assessment Report* (DRAFT). Prepared for the Atlanta Metropolitan Area, November 14, 2004.

been used by the Trust for America's Health, a health advocacy organization that works to keep health issues as a national priority, supporting reviews that are critical of overall public health preparedness assessments of the states.[18]

Research addressing the support of delivery or dispensing of the stockpiled antibiotics to people who will actually need the medication is relatively small, but growing. State and local planners are guarded when discussing RSS site support, and only slightly less so when talking about the dispensing sites, for fear of inadvertently disclosing the planned location of the RSS site.[19] In an article published on the web site of the National Association of City and County Health Officials, however, Patrick Lindner, of the Kansas City, Missouri, Health Department, has offered examples of CRI dispensing alternatives that have been considered by communities and states and, in some cases, evaluated through tabletop exercises and other drills.[20]

Literature prepared by schools of public health and by SNS planners addresses various aspects of throughput models that support the requirement for the large numbers of workers needed at dispensing sites to treat the recommended number of people within the allotted time. Work by Weill Medical College of Cornell University has given rise to concerns about the size of the facilities and the number of staff that would be required to support the level of

[18] Trust for America's Health, *Ready or Not? Protecting the Public's Health from Disease, Disasters, and Bioterrorism, 2006,* http://healthyamericans.org/reports/bioterror06/BioTerrorReport2006.pdf (accessed January 7, 2007).

[19] Interviews and discussions conducted by the author with SNS planners within the Atlanta Metropolitan Statistical Area, August 2006 through November 2007.

[20] Patrick J. Lindner, *CRI Alternative Dispensing Guide: A Collection of Model Practices and Pilot Projects (*National Association of City and County Health Officials, 2006), http://www.naccho.org/topics/emergency/documents/AlternativeDispensingGuide_Final_000.pdf (accessed December 23, 2006).

throughput desired by CDC.[21] As with most models, Weill's method does not apply directly to every situation, and while the equations offered have general application, they must be adjusted for specific sites.

Some studies have investigated volunteer motivation and recent surveys have also looked at public health and medical professionals' willingness to work during response to a biological attack or a pandemic influenza outbreak. Most of these studies raise concerns that there will be resistance among those who feel the importance of their daily work exceeds the importance of devoting time for emergency preparedness. The literature also raises concerns about the reluctance of employees to participate in response activities unless they think that the duties they will perform are important enough to warrant the level of danger they might face. Some workers are concerned about the safety of family members and some are concerned for their own safety.[22]

Similarly, literature is available addressing recent efforts to form partnerships between the government and private corporations to meet the gaps between the capabilities and capacities of the two groups. Some literature focused on the business perspective, addressing the actions that businesses should take to prepare for a possible terrorist incident.[23] Others, such as a study by the Center for Biosecurity at the University of Pittsburgh, have noted legal concerns that need to be addressed to further optimum participation by

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[21] Nathaniel Hupert, Jason Cuomo, Mark A. Callahan, Alvin I. Mushlin, and Stephen S. Morse, "Community-Based Mass Prophylaxis: A Planning Guide for Public Health Preparedness," (Ithaca, NY: Weill Medical College of Cornell University, Department of Public Health, August 2004). http://www.ahrq.gov/downloads/pub/biotertools/cbmprophyl.doc (accessed January 7, 2006).

[22] Ran D. Balicer, Saad D. Omer, Daniel J. Barnett, and George S. Everly, Jr. "Local Public Health Workers' Perceptions toward Responding to an Influenza Pandemic," *BMC Public Health* 6 (2006): 99, http://www.biomedcentral.com/1471-2458/6/99 (accessed December 28, 2006).

[23] Business Executives for National Security Metro Atlanta Region, *Getting Ready: Company Primer on Preparedness and Response Planning for Terrorist and Bioterrorist Attacks* (Atlanta, GA: Business Executives for National Security, http://www.bens.org/images/GettingReady_042304.pdf (accessed December 27, 2006).

businesses.[24] There is current CDC documentation that instructs local and state public health to seek out private business as partners in the dispensing effort.

In Georgia, an alliance between the state Division of Public Health and the Business Executives for National Security (BENS) developed in the spring of 2001. The Atlanta chapter of BENS initially partnered with CDC, the Georgia Division of Public Health, and the DeKalb County Health Department looking for ways larger businesses can support the disaster preparedness of smaller businesses in the face of the emerging terrorist threat. The first product of that partnership was a primer for business preparation for disasters, specifically a terrorist incident involving the use of a biological agent. Since 2003, the planning has expanded to review ways public health and business might work together to cover gaps in preparedness. Support of the SNS activities became one of the focal points for investigation. The concepts there have moved beyond the proof-of-concept level to preparations for multiple health district exercises to test the plans for corporate volunteer support of public health activities. These concepts will form the basis of the discussion in Chapters III and IV.[25]

The public health response to Hurricanes Katrina and Rita in August and September 2005 raised new concerns about the SNS support. These concerns add emphasis to the need to find new ways to meet the resource requirements for receiving and dispensing medication as a part of emergency response activities. Many of the organizations and locations that state and local public health agencies had planned to use were no longer available, while the pool of individual volunteers from local communities was depleted by evacuation.

Most of the concerns raised by the hurricane response are outside the scope of this investigation, however. After-action reports of SNS deployments as

[24] Onora Lien, Beth Maldin Crystal Franko, and Gigi Kwik Gronvall, "Getting Medicine to Millions: New Strategies for Mass Distribution," *Biosecurity and Bioterrorism: Biodefense Strategy, Practice and Science* 4, No. 2 (2006), 176–182, http://www.liebertonline.com/doi/pdf/10.1089/bsp.2006.4.176?cookieSet=1 (accessed January 12, 2007).

[25] James W. Buehler, Ellen A. Whitney, and Ruth Berkelman, "Business and Public Health Collaboration for Emergency Preparedness in Georgia: a Case Study," *BMC Public Health* 6 (2006): 285, http://www.biomedcentral.com/1471-2458/6/285 (accessed January 7, 2007).

part of the response to Hurricanes Katrina and Rita, and the testimony before Congress concerning the public health response for those two events, address a different dispensing requirement than that which public health expects to face following a terrorist event. There was no need for rapid dispensing of antibiotics. There was no critical need for ventilators. There was, however, a need to support the kinds of medications that out-patients would have purchased at a local pharmacy. The need to support maintenance medications differs greatly from the immediate need for antibiotics following an anthrax release.

Even so, reports like those published by the Trust for America's Health based on the reported success of SNS response and describing the experience in Mississippi, may bolster the belief that the stockpile can be delivered quickly and efficiently using public health assets. Reports concerning events in Louisiana, however, indicate some difficulties for the response, as the locations for the RSS site and planned dispensing sites had to be significantly altered during the response.[26]

On a positive note, in both Mississippi and Louisiana the local, state, and federal responders reported they were able to adapt to the circumstances they faced.[27] Essentially, multiple locations for dispensing sites and multiple sources of volunteer support must be coordinated for the response. The use of the locations must be coordinated through local and state emergency management to resolve the conflicts created by multiple agencies wanting to use the same property. These are lessons that will apply to any SNS deployment.

Part of the hurricane experience pointed to the inadequacy of planning without identifying multiple contingency sites for an event that destroys the largest base of volunteer support within the state. Importantly, the multiple demands for volunteers, and the inaccessibility of the region, affected the speed with which support could be delivered. Difficulties included the inability of

[26] The White House, *Federal Response to Hurricane Katrina: Lessons Learned* (February 2006), 48–49, http://www.whitehouse.gov/reports/katrina-lessons-learned.pdf (accessed June 10, 2006).

[27] Author's discussions with state public health officials from Louisiana and Mississippi, December 1–2, 2005.

traditional volunteer recruiting organizations, such as Red Cross and other volunteer organizations active in disasters (VOADs), to deploy volunteers and establish effective recruiting methods to meet the needs of response to a catastrophic event.

The administrative requirements to recruit, train, and credential individual volunteers are daunting. This is exacerbated by the required number of volunteers, which may be in the thousands according to the CDC SNS guidance. Similarly, the multiple alternate facilities and transportation support needed must be coordinated prior to an event in order to efficiently support the delivery of pharmaceuticals during the emergency response.

E. METHOD

This investigation considers policy options for officials charged with the health and welfare of their communities who must plan for mass prophylaxis. In *Blue Ocean Strategy*, W. Chan Kim and Renée Mauborgne introduce a business strategy that is built upon risk minimization rather than risk taking.[28] Among the tools that they have developed is the strategy canvas, which serves as the analytical framework for evaluating strategic options. The canvas allows the current status of activities to be captured against a range of factors associated with performance within a given industry. The information can be shown in graphic form with points plotted for the selected option's performance. Connecting the points provides a value curve, the basic component of the strategy canvas. The curve is a graphic depiction of relative performance across the selected factors.[29] Using a strategy canvas modified for analysis of SNS support operations in dispensing antibiotics, value curves will be developed for each of the policy options being reviewed.

Analysis of the advantages and disadvantages of government and private corporation partnerships can provide basic conclusions on the feasibility of calling on private companies to augment the government's public health workforce. This is particularly true of the community response needs during a

[28] Kim and Mauborgne, *Blue Ocean Strategy,* 23.

[29] Ibid., 25–28.

disaster that requires SNS deployment. This analysis weighs the requirements for support against the resources that could be gained through this partnership.

The analysis also considers legal obstacles to implementation of these partnerships. The investigation reviews the impact of current state and local laws governing the dispensing of the kinds of medications that are included in the SNS and laws addressing liability of volunteers. The study also considers the level of public awareness required to adequately implement this and any other option.

This investigation provides evidence for assessing the value of involving corporations as volunteer entities to provide personnel, facilities, and transportation resources to assist in the quick delivery of medications to the community. This thesis provides informed consideration of a policy option, for community leaders who are addressing the need to rapidly dispense medications, of combining public and private resources to meet the needs of the community.

The practical aspects of this investigation will support alternative solutions to an immediate problem, helping to close the gap between the support needed to dispense the contents of the SNS in a timely manner and the reality of the staffing, facility, and transportation shortfalls that have been identified for dispensing sites. In particular, this thesis examines possible solutions for Atlanta and Georgia and considers whether they could serve as a model for other CRI-designated metropolitan areas and all states. A critical assessment of an option that includes using businesses as volunteer entities supporting dispensing operations could assist both state and local planners seeking to meet the benchmarks established by both CDC and DHS for the delivery of medications and, more importantly, save lives.

The thesis proposes a novel approach of inviting corporations as volunteer entities, not merely offering their facilities for use to support a government activity. Such a strategy raises several fundamental questions, including the following:

- Does the option encourage community ownership of the problem?
- Does the option provide for better response time to the problem?
- Does the option increase the number of people who can be served within a given timeframe?
- Does the option enhance the availability of medical care providers to support screening and dispensing?
- Does the option reduce the security personnel requirements?
- Does the option support gathering needed information about the people who receive the medication?
- Does the option provide redress for the clients in the event of an adverse medication side effect?
- Does the option require new legislation or changes to existing legislation?
- Does the option enhance the availability of non-medical support personnel for dispensing activities?

The thesis compares strategic options that answer each of these fundamental questions. The four primary strategic options are (1) using the current public health force supported by traditional volunteer recruitment, (2) using the United States Postal Service to directly deliver medication to households, (3) recruiting large businesses to serve as volunteer entities, and (4) a possible combination of the three options to meet the requirements of timely delivery, security, medical personnel support, non-medical personnel support, and client information collection. Within all four options, the discussion also focuses on whether new legislation is needed to cover pharmaceutical dispensing authorities, corporate liability, and indemnity. Interviews with SNS coordinators, emergency managers, and business representatives (both owners and operations managers) will support or refute the concept of corporate support as acceptable for further exploration.

In summary, four options are considered as solutions to the problem of dispensing rapidly to 100 percent of the population of a large metropolitan area. These four options are reviewed and compared over a range of criteria.

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II. STRATEGIC NATIONAL STOCKPILE AND CITIES READINESS INITIATIVE

This chapter provides a review of the guidance and direction provided by CDC for state and local planners. An understanding of the gap between the guidance provided to the planners and the realities that they face is necessary for a better understanding of the problems planners are attempting to solve. The assessments and decisions made by local officials are shaped by their understanding of the threat, the response capacity of internal and external resources, and the readiness of the responders within the community. Recommendations for state and local public health preparation for significant medical and pharmaceutical disaster support are found in the CDC's guide for preparedness for receiving the SNS. The guidance document is revised continuously, and is available in draft version 10.02 at this writing.[30]

A. CURRENT CDC GUIDANCE FOR STATE MANAGEMENT OF THE SNS

Based on Version 10.02 of the CDC guidance, states are expected to receive supplies at a central facility and then further distribute the supplies to points of dispensing or to intermediate nodes for further repackaging for distribution to other dispensing sites. CDC requirements include personnel, facilities, communications equipment, coordination and control procedures, organizational frameworks, and transportation assets. The responsibilities for personnel at the dispensing site include establishing the site to support mass dispensing, receiving supplies from the RSS site and preparing for dispensing the antibiotics, screening individuals seeking medication, ensuring the safety of both the workers and those seeking assistance, managing the inventory provided from the RSS and documenting the dispensing site activities, and actually dispensing antibiotics or providing vaccinations.[31] The guidelines established by CDC are very detailed and offer several methodologies for achieving successful

[30] CDC, *Receiving, Distributing, and Dispensing.*

[31] Ibid. Chapter 12 addresses dispensing site operations in detail.

prophylaxis of the community. However, the requirements for meeting the demands of the guidelines fall upon the local and state governments for coordination and implementation.

CDC assigns contract consultants to work with each state and its local SNS planners. An alternate consultant is assigned to each state to support the primary consultant. The consultants provide interpretation of guidelines, conduct technical reviews of preparation, and make recommendations for improvements in planning. In interpreting the guidelines, the consultants attempt to maintain consistency throughout the supported states. This is to ensure the best possible methods are being considered and to prevent the preferential treatment of one section of a multi-state region, state, or community.

The guidelines for post-exposure prophylaxis following an anthrax attack recommend providing treatment first for emergency responders and the medical community. Also, those assisting with activities at the dispensing sites should be included in the early treatment. The CDC strongly recommends that all dispensing sites within a community be opened simultaneously to avoid panic or the perception that one part of a community is being given preferential treatment (apart from preferences that have been discussed openly within the community, such as early treatment for first responders).[32] This creates a significant requirement for personnel and facilities to be available quickly for the initial activities needed to establish an operational dispensing site.

The stockpile may include new drugs that have not yet been fully approved for release except under investigational processes. The current guidance states, “You will have to administer amoxicillin under an Investigational New Drug (IND) Application, which requires that you obtain signed informed-consent forms from recipients and that you monitor those recipients for adverse reactions.”[33] This creates a dilemma for the strongly recommended option of dispensing supported by the USPS, which does not involve direct contact with

[32] CDC, *Receiving, Distributing, and Dispensing.* 12-30.

[33] Ibid., 9-7.

the people receiving the medication and fails to meet the requirements for monitoring. This problem will be discussed in greater detail in Chapters III and IV.

B. COOPERATIVE AGREEMENT REQUIREMENTS FOR SNS AND CITIES READINESS INITIATIVE

The CDC *Cooperative Agreement* "Program Announcement AA154" requires states that receive funding to agree to conduct mass prophylaxis planning and preparation to decrease the time needed to establish the RSS and dispensing sites.[34] Inherent in this requirement is the necessity of implementing regional and state protocols for dispensing pharmaceutical support, meeting the guidelines found in the current version of the SNS guidance, ensuring the ability to conduct both mass vaccination and mass dispensing activities, and using information systems compliant with the Public Health Information Network Preparedness Functional Area *Countermeasure and Response Administration* (CRA).[35] CRA addresses those information technology systems developed to manage and track actions taken to contain and counter an outbreak.

The *Cooperative Agreement* "Announcement" also identifies a need to decrease the time required to provide protection or treatment to all responders, including nongovernmental support. Per the agreement, the CDC expects that states and local communities will work to decrease the time needed to develop and release coordinated information to the public through whatever incident command elements have been activated.[36] To monitor the state's progress within the SNS/CRI portion of the agreement, the state and local plans will be assessed through regular SNS/CRI reviews that will be conducted by the DSNS consultants. The methodology for the reviews has been under regular revision, but essentially is a listing of the requirements found in the SNS guidance.

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[34] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "Program Announcement AA154—2006 (Budget Year 7)," *Cooperative Agreement Guidance for Public Health Emergency Preparedness*, http://www.bt.cdc.gov/planning/coopagreement/pdf/fy06announcement.pdf (accessed December 23, 2006).

[35] U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, "PHIN Countermeasures and Response Administration," http://www.cdc.gov/PHIN/preparedness/cra.html (accessed February 9, 2007).

[36] CDC, "Program Announcement AA154—2006," 4.

Other requirements for preparation for receiving the supplies from the SNS, found in the CDC *Cooperative Agreement*, outline planning and evaluation activities associated specifically with the selected metropolitan areas and the CRI, and requirements to address specific methods of response to include the USPS option. The CRI was established to provide additional support to metropolitan areas. Through the CRI, the CDC DSNS has increased the emphasis on large urban areas and is seeking to further enhance the capacity and capability of those communities for receiving and dispensing the SNS supplies.[37]

C. RESOURCES

Local personnel resources include public health staff and other government employees. They also include the personnel resources available through the regular volunteer methods employed by the Red Cross and other Volunteer Organizations Active in Disasters (also referred to as VOADs). However, most government staffing is at levels required to support day-to-day operations with little surge capacity. Local facilities, such as schools, civic centers, and other municipal buildings may be available to support the dispensing effort, but access and central locations to various populations must be considered. Similarly, warehouses and large churches, synagogues, and mosques may be available.

State and local government resources available to public health departments to assist it receiving and dispensing supplies from the stockpile are finite and, in many cases, very limited. States, responsible for dispensing as a local function, have found that it will be very difficult to meet the forty-eight-hour window using traditional delivery methods. Notification and movement of state employees, unless they are already within the affected jurisdiction, becomes problematic due to distances and traffic density within the metropolitan areas.

Health care and medical care facilities are resources of great concern to CDC and public health during response to a terrorist event or a natural event such as pandemic influenza. The health care community would like to prevent a

[37] CDC, "Program Announcement AA154—2006," 4.

large number of “worried well” or non–critically ill from overwhelming local hospitals and clinics. Members of the health care community are also concerned with protecting both the staff of the medical facilities and the families of the staff.

Public health officials should seek the influence and leadership of elected and appointed officials early in the preparation and planning efforts, particularly with regards to available resources. They have great influence within the jurisdiction and can reach multiple agencies to garner support for the planning effort. They can reach the community in a variety of ways to encourage support by civic organizations, businesses, and individual volunteers.

D. GUIDANCE MEETS REALITY

Interviews conducted by the author during the spring and summer of 2006 with state and local SNS coordinators, DSNS staff, members of the Directors of Public Health Preparedness Executive Committee, and state health officers indicate that the shortfalls in resources for conducting mass prophylaxis within the forty-eight hours set by current guidance occur in several key areas. The identification of sufficient personnel resources to actually support broad-based mass prophylaxis, adequate facility support, and adequate transportation are of particular note. These key shortfalls are seen in the areas that the DSNS staff emphasizes during technical assistance reviews. These shortfalls have also been noted in after-action reports of multiple exercises at the state and local level.[38]

1. Personnel

As communities strive to meet the mass dispensing requirements, the first of the shortfalls identified by local and state SNS planners is finding a stable and adequate source for the number of workers required to staff the dispensing sites.[39] The lack of surge capacity among both the medical and non-medical personnel required to meet the needs of the planned dispensing sites,

[38] See for example the results of the 2004 East Central Health District SNS exercise and the Metro Atlanta SNS exercise of July 2005 that are held by the SNS Coordinator for the Georgia Division of Public Health.

[39] This identified shortfall is a regular item of discussion among the metropolitan Atlanta SNS planners during state and district conferences attended by the author. This same shortfall was noted in interviews with local planners conducted in October and December 2006 and January 2007 as part of this investigation.

particularly for nurses and emergency medical support, is a part of that personnel shortfall. According to the Health Resources and Services Administration (HRSA), there is a moderate shortage of nurses nationwide, with varying levels of severity from community to community.[40] That shortage is even greater among public health nurses, in part caused by a changing workplace in which greater demands are being made for training and preparation for emergency response.[41] Current expectations for participation, as seen in surveys conducted among public health staff, indicate that there is considerable reluctance among the staff to participate in a response to a bioterrorist incident.[42]

Volunteer coordination has been a concern, from the initial planning stages, whenever volunteers were considered a necessary resource. Communications equipment, credentialing, and training have been additional problems confounding any organized response. The Medical Reserve Corps (MRC) has been used at the local level in several pilot activities throughout the country. Unfortunately, the funding has been limited for the communities establishing an MRC. The first communities to receive funding from federal grants now find themselves seeking new sources of funding.[43]

Interviews and follow-on discussions with local public health planners working on the dispensing plans show the staffing requirements for the dispensing sites to be particularly vexing. A local planner from New York, from a jurisdiction adjacent to, but not a part of, the metropolitan area, stated that the planning effort had identified a need for 5,000 staff, but only 300 workers are available to fill the requirements. The alternatives being explored there now

[40] U.S. Department of Health and Human Resources, Health Resources and Services Administration, “HRSA nursing programs address the nation's registered nurse shortage,” http://bhpr.hrsa.gov/nursing/ (accessed December 23, 2006).

[41] Interviews for this investigation, conducted during the spring, summer, and fall of 2006 with Georgia district health directors and clinic coordinators in both metropolitan and non-metropolitan health districts, support these claims as they strive to meet service delivery requirements.

[42] Balicer, et al.,”Local Public Health Workers' Perceptions.”

[43] Based on author’s notes from Georgia statewide MRC coordinator meetings during the past eighteen months indicating that funding, recruiting, and organization are the primary points of concern.

include allowing the first responders to conduct self-dispensing.[44] A planner from the Atlanta MSA, using the guidance given by CDC and the Weill-Cornell planning model, reported that she had identified a requirement to treat 600,000 persons in forty-eight hours. She has determined that this will require twenty dispensing sites with a minimum of two shifts of eighty-three workers at each site (3,320 personnel) to meet incident command and dispensing requirements. These numbers do not include personnel to meet security requirements for the dispensing site. She has identified approximately 800 potential volunteers from traditional resources, although a listing of names is not available.[45]

2. Facilities

Most local jurisdictions have developed plans that use schools as dispensing points. These locations were chosen because CDC consultants initially gave a strong recommendation for the use of schools, assuming that schools would provide a standard layout for dispensing sites. Several planners wanted to use elementary and middle schools. CDC's later guidance modified the recommendation to high schools rather than just any school. Exercises and site assessments demonstrated that the design of the elementary and middle schools was generally restrictive in hallway dimensions and furniture size.[46] The rationale for using schools, as stated by consultants and as noted in the CDC guidance, has been that the locations are generally known to the public and offer parking facilities and the infrastructure to support communications for management of the site.

Some jurisdictions, such as Cobb-Douglas, Georgia, have determined that the schools within the district are inadequate for the district's dispensing needs. They are too small and using them would require opening too many sites,

[44] Discussion with the author, September 28, 2006.

[45] Interview with Pam Blackwell (emergency coordinator for the Cobb-Douglas [Georgia] Health District), October 10, 2006.

[46] Dispensing site assessments conducted jointly by CDC SNS consultants and the Georgia SNS Coordinator in 2003–2005 found that elementary schools and middle schools were less than ideal for large numbers of adults to process for mass prophylaxis.

creating excessive management and security overhead.[47] Cobb-Douglas planners have sought larger facilities such as civic centers, realizing that larger facilities bring with them a different set of complexities in security, crowd control, and line management. These facilities have several benefits that support the controlled flow of large numbers of people through the facilities—wide hallways, surveillance, and large open areas. Other buildings within the communities have also been considered, including supermarkets, warehouses, and retail businesses.[48]

A few jurisdictions in Georgia initially chose to use places of worship as dispensing sites. As the plans for these jurisdictions have undergone further evaluations, the planners have determined that the interior of most places of worship is too restrictive to support dispensing to the number of people needed to meet CDC requirements. This problem does not preclude the use of the facilities, but means that the choice of location must be given more consideration.[49] Small worship facilities with inadequate parking will not fill the requirements to support dispensing; however, large places of worship in some metropolitan areas have the same characteristics as civic centers and could be adequate to support dispensing operations.

3. Security

The CDC guidance calls for jurisdictions to conduct a risk analysis to determine the security needs for the RSS site and the dispensing sites. These risk analyses must also consider other risks within the jurisdiction, and cannot be performed in a vacuum. When receiving requests for additional security assistance, most community law enforcement agencies have identified a shortfall. State law enforcement is similarly constrained when facing a statewide

[47] Pam Blackwell, interview June 2006, and follow-up December 2006.

[48] From author's participation in multiple planning sessions with community planners representing emergency management, law enforcement, education, public health, elected officials, and business leaders.

[49] Interviews for this investigation with metropolitan and non-metropolitan SNS planners of health districts in Georgia who are reviewing their selected locations.

requirement for assisting at the RSS and dispensing sites. Any options being considered for the delivery of the medications should not create a greater need for security.[50]

Identifying a central security planner for a large metropolitan area with multiple law enforcement jurisdictions and without a state police force is one of the major obstacles faced in planning for CRI support. Directed by the DSNS consultant to identify one central coordinator for the twenty-seven-county metropolitan statistical area of Atlanta, the Georgia SNS manager has attempted to contract with another state agency to meet this need. However, that effort has encountered administrative complications. The SNS planner for the state is now requesting that a local law enforcement planner accept the role, but it is uncertain whether the other metropolitan law enforcement jurisdictions will take direction, guidance, or even suggestions from that individual.[51] Additional security concerns will be addressed in the discussion of the four options.

[50] Based on the author's interviews with members of the Georgia Homeland Security Taskforce and the Georgia Emergency Management Agency specifically for this investigation, comments from law enforcement and emergency management indicate that they are concerned there will be unnecessary calls for use of state and local law enforcement to support the dispensing site activities at a time when there will be other major security requirements.

[51] The Georgia SNS planner is a direct report to the author. Comments noted took place December 2006 through January 2007.

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III. DESCRIPTION OF FOUR OPTIONS FOR RESPONSE

As noted in the Chapter I, the SNS planners seek to reduce fear within the community by demonstrating that the level of preparedness planning is sufficient to support the large metropolitan areas. Figure 3.1 demonstrates the interaction of the outcomes desired from the options under consideration. The options should address the fears of the first responders and their concerns for their family members, as well as the concerns of the rest of the community. The alternatives must reduce the time required to deliver and dispense the medical supplies of the SNS to meet the CDC guidance. At the same time, the options should raise the awareness of the community concerning the threat, the response to the threat, and the planning and preparation that is being accomplished to meet the threat.

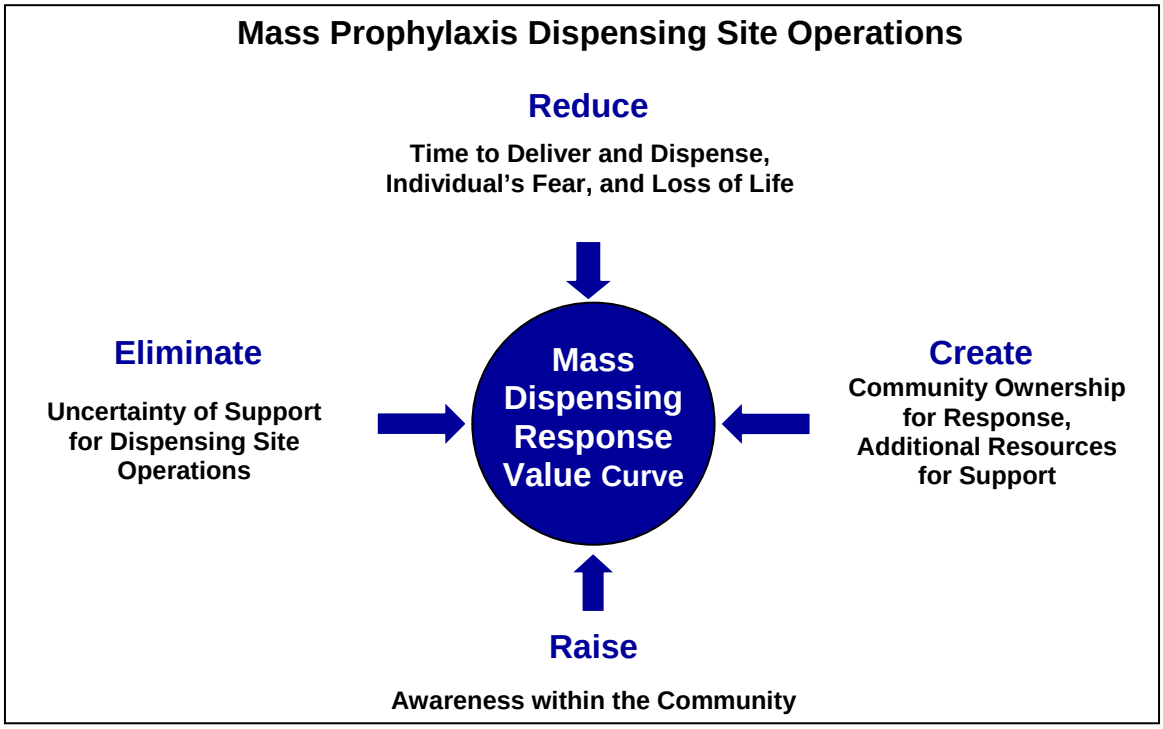

Figure 3.1 Four Actions Framework, Value Added[52]

[52] The idea for this representation of a Network-centric Response Curve is taken from Kim and Mauborgne, *Blue Ocean Strategy.*

The current plans for SNS dispensing call for public health workers to conduct operations with the support of traditional volunteers. There are variations of this theme that will be discussed below, but the common factor among the variations is that public health is the primary control agency at the dispensing sites. An alternative, specifically recommended for planning and consideration by the CDC guidance, is the U.S. Postal Service (USPS) option that was initiated through a memorandum of understanding among DHS, DHHS, and USPS. A third option to consider is the use of corporate entities as volunteer organizations augmenting the currently planned public health option. The fourth option, which combines the options listed above, surfaced as a result of this investigation. Note that each of the options discussed builds upon the first option of public health personnel and traditional volunteer support at public health–managed dispensing sites.

As a method of summarizing the characteristics of each of the options, a chart showing the strengths, weaknesses, threats, and opportunities (SWOT) of the option will be shown. The SWOT charts are standard analytical techniques that will further support the comparisons of the options found in Chapter IV. Strengths address those characteristics of the option that support achievement of the desired goal. The weaknesses are those characteristics of the option that are counter to achieving the goal of saving more lives and instilling confidence in the ability to respond. Opportunities are the positive outcomes that are characteristic of the option, while threats are negative outcomes characteristic of the option.

A. OPTION 1: DISPENSING BY PUBLIC HEALTH WORKERS SUPPORTED BY TRADITIONAL VOLUNTEER STAFF

In Option 1, the current public health response option, the basic concept is that public health employees will open dispensing sites throughout the effected community. Staffing for these sites will come from public health and volunteer support. The sites will receive antibiotics from the state. People from the community will come to the site. At the site, they will be screened by public health employees and provide basic medical histories. Public health employees at the dispensing site will give instructions concerning the situation, the disease being

countered, and the medication. The people being served will have an opportunity to ask questions of medically trained personnel. The staffing needs for the dispensing sites in this option will quickly consume public health resources and require large numbers of volunteers. The extreme involvement of public health in this effort means that for the time the dispensing site operations are in operation, other public health activities will be severely curtailed.

Looking at the current plans and guidance at the local level, two distinct client groups become evident. The first is responders to the incident, those individuals of whom we expect the leadership, expertise, and dedication to mount the countermeasures required to contain, reduce, and remove the threat. The second is the general population, which consists of greater numbers of people, greater complexities, and greater obstacles to be addressed.[53]

1. Self-Dispensing of First Responders

State and local planners generally acknowledge the need to provide prophylaxis to first responders and their families separately from the rest of the community. The methods chosen for this vary. Most planners have designated special sites to serve only first responders. Some jurisdictions in Georgia have designated a hospital to serve as the first-responder dispensing site; others have decided to use a separate site and make that location available only to the first responders. In New York, some jurisdictions have decided that the first responders will self-dispense.[54] In doing so, they avoid the staffing requirement for a separate site for first responders. The pharmaceuticals will be provided to the first responder stations directly from the RSS site or from an intermediate distribution site.

2. Dispensing to the General Population

Using personnel from the community public health offices, supported by any volunteer organizations and individuals that local public health has been able

[53] From author's review of state and local plans as well as CDC guidance (CDC, *Receiving, Distributing, and Dispensing*).

[54] In an interview with the author, October, 2007, a public health planner in New York stated that the county had determined that the only way to meet the timelines for dispensing was to allow direct delivery to the first responders.

to enlist for support, public health activates dispensing sites. Local law enforcement will determine the level of security required for the dispensing sites, traffic control, and crowd control. Public health and emergency management have worked together to determine the availability of facilities and other support for the dispensing sites. Each dispensing site is established with people operating under an incident command system for coordination and control. Personnel are assigned roles for line management, greeting and screening, emergency medical services, information collection, mental health counseling, dispensing, and logistical support. The number of persons needed for each site depends upon the number of lines being supported, and the desired throughput (i.e., the number of people to be provided medication over a given period of time) for the site.

Three types of locations are frequently recommended as dispensing sites: local high schools, civic centers, and places of worship. Using high schools as dispensing sites for some areas provides known sites within the communities with similar physical designs. However, the age of the school can mean that there are significant differences in the facility design. Some communities have very large high schools meeting all the facility requirements needed to support the community. Others are less ideal, and, as noted previously, the planners in those communities have looked for larger or better-suited locations, such as civic centers. Using civic centers as dispensing sites generally provides better parking along with access to security resources of the centers. Using places of worship as dispensing sites has been discussed in part. The design of most facilities is considered too limiting by the local SNS planners. However, some of the larger places of worship are similar to civic centers and have many of the same aspects of support that large businesses and large high schools do.

Using hospitals as dispensing sites is generally discouraged. The CDC guidance specifically discourages the use of hospitals as dispensing sites in the belief that there will be a significant rise in the number of patients being received

by the medical care providers. However, some communities plan for hospitals to dispense to hospital staff, and possibly first responders and their immediate family members.

There are several variations to this option, but all require staffing by official public health workers and large numbers of volunteers. The drive-through dispensing site concept, a variation of the dispensing site with some similarities to a fast food restaurant operation, was frequently raised during discussions with emergency preparedness and response planners.[55] An individual family member would drive to a dispensing site location. Never leaving the car, he or she would provide the personal medical history needed by public health, sign any special releases needed for medications still undergoing the investigative process, receive instruction concerning the agent and the countermeasures being employed, and have any concerns about the medication addressed. This variation limits the amount of person-to-person contact among those waiting for medication, but the staffing requirements are unchanged. The drive-through version poses more traffic control issues than a walk-through, and security requirements are essentially the same.[56]

Another variation of public health–led dispensing sites focuses on the availability and participation of individual volunteers from the community, and possibly from elsewhere in the state and region, who may be able to support RSS and dispensing site activities. The jurisdictions are actively recruiting volunteers to provide both medical and non-medical support. The number of public health staff available at the state and local level is inadequate to conduct the mass prophylaxis required. These volunteers are critical to successful response under current planning and preparedness models.

[55] During the 2005 influenza vaccination clinics, the Gainesville Health District conducted drive-through clinics.

[56] Several health districts in Georgia have used the drive-through model for influenza vaccination clinics. Traffic control was a major issue, and there was no real benefit in staff reduction. Some planners believe that the drive-through variant will coax more people to participate, however, as they will have less person-to-person contact.

Organized volunteers are also being recruited by state and local public health. The local chapters of the American Red Cross and the Medical Reserve Corps units are perhaps the best examples of local and multi-county regional attempts to develop organized, skilled, response capacity and capability. These organizations can provide volunteers in organized, structured groups that can be merged with the dispensing-site operations without the need to establish a command and control structure for the people belonging to the organizations. However, the numbers recruited are relatively few when balanced against the total needed, and the structure available at this time is basically unformed.

Table 3.1 shows the considerable characteristic weaknesses and threats to the successful implementation of current plans, but also indicates the strengths to be considered in this option. These characteristics will be used for comparison of the options in the next chapter. The greatest problem seems to be the reliance upon a flawed volunteer system to provide the number and types of volunteers needed.[57] The greatest strength of the option comes from the public health site control and client interaction.

Strengths	Weaknesses
• Known facilities • Screening of clients • Client redress • Public Health controls	• Limited medical support • Limited non-medical support • Reliance on limited traditional volunteer assets • Security support is stretched • Possibility of volunteer no-shows
Opportunities	**Threats**
• Interagency coordination • Team development	• Lack of public health support in other planning and response • Failure to achieve success

Table 3.1 SWOT for Current Public Health Response Option

Opportunities arising from this option include interagency coordination that can be carried into other planning and preparedness activities. It also has the

[57] The Hurricane Katrina after-action reports identified numerous problems with Red Cross response. Similar issues have been noted in hurricane response at the state and local level where public health has been called upon to use its resources, which have other functions to be addressed, to bolster the Red Cross response. These comments are not made to lessen the importance of support for the American Red Cross and its many preparedness programs, but to indicate that the volunteer programs have very real management and reliability issues.

benefit of creating multidisciplinary teams that can be used in other response activities. The threats include the failure of the effort to reach the entire community in two days and the lack of public health support to other planning and response efforts.

B. OPTION 2: DISPENSING SUPPORTED BY THE UNITED STATES POSTAL SERVICE

The concept for Option 2, the postal service option, is to have the USPS mail carriers deliver enough medication to each residence within the community to provide time for the dispensing sites to be established. The medication will be distributed to the mail carriers from a central location. For security, the carriers will be teamed with law enforcement officials who will accompany them during the delivery to the homes and other residences.

The concept is based on an existing system of delivery that has the potential to touch every residence within a community every twenty-four hours as a matter of routine. Another supporting factor is the belief that the mail carriers have in-depth knowledge of the households on their routes that will assist in emergency mass prophylaxis.[58] The DHS, DHHS, and USPS have executed a Memorandum of Agreement (MOA) that states that USPS will support the public health mass prophylaxis efforts following a terrorist incident. The CDC Cooperative Agreement requires the states to plan for the use of the post office support for at least one zip code at a minimum. In developing the MOA, the postal workers union has insisted that adequate security for this option means having a law enforcement officer riding with each mail carrier.

Offered as a means to relieve the critical timelines associated with dispensing and gain time for establishing dispensing sites, this option requires detailed planning and coordination among law enforcement, public health, and the postal service. Separate discussions with members of DSNS indicate that recent exercises have shown that one carrier is able to deliver antibiotics to two

[58] This claim was made by both the CDC representative and the USPS representative at the CRI orientation in Atlanta in 2004. The reference to mail carriers having great insight into the residents along their routes has been stated in orientation meetings at the CRI orientation sessions in the CRI meetings. There has been no evidence offered to support this claim.

routes, halving the security requirements that had initially been calculated. If, however, this activity is being conducted to gain time, it will be taking place concurrently with efforts to activate dispensing sites, thus competing with other response efforts for resources.[59]

Table 3.2 is summarizes the strengths and weaknesses associated with Option 2. The most critical weakness is the lack of professional medical interaction with the people receiving the medication. Another primary concern is the increased demand upon security forces within the community.[60] Perhaps the greatest benefit of this option comes from the use of an existing system with its associated resources and processes to rapidly deliver the antibiotics to every business and residence in the community. The opportunities that this option fosters include closer coordination between local public health and the postal service. It also enhances the USPS presence in the community. The threats that are possible with this option include the failure to obtain data critical to the public health response and follow up. The option relies on information to be returned by the recipient of the antibiotics, if requested. No information concerning who, specifically, has received the medication is collected at the time of transfer to the residents.

Strengths	Weaknesses
• Adds to non-medical support (carriers) • Rapid initial delivery	• Stress to local law enforcement resources for security support • Requires changes in legislation • No medical professional screening • No immediate monitoring for adverse reactions • No in-person redress for client concerns
Opportunities	**Threats**
• Rapid delivery throughout the community • Buys time for dispensing site operations • Enhances USPS public relations	• Client distress • Possible loss of client data (history) • Legal issues

Table 3.2 SWOT for the Postal Service Option

[59] CDC, *Receiving, Distributing, and Dispensing.*

[60] This concern has been voiced during planning sessions with local law enforcement planners from metropolitan areas including Seattle and Atlanta.

C. OPTION 3: DISPENSING SUPPORTED BY PRIVATE BUSINESSES

In Option 3, private businesses would assume the role more generally familiar to volunteers. The business would be the volunteering entity, offering its personnel, management structure, facilities, and leadership to assist the dispensing operations. The business location would become the dispensing site. The company's medical personnel would provide the clinical direction required by law; company staff would provide site management, leadership, and personnel; and the company's security personnel would provide site security. Public health would coordinate delivery of the antibiotics to the company. After company employees receive medication for themselves and their families, they would then support dispensing efforts at either the company's site or public health sites in other parts of the community.

The health districts within the Atlanta MSA continue to seek new ways to support the dispensing effort of the CRI. During an exercise in Cobb County, Georgia, in 2005, Lockheed Martin was requested by the local health district to participate in an initial proof-of-concept exercise. The concept was that company medical staff, as well as non-medical employees, could support a dispensing site at the company's location. The company's employees would then be available to support another dispensing site operated by local public health. The exercise was part of a larger dispensing evaluation that included five metropolitan health districts. The company accepted the offer. While the after-action review indicated room for improvement, the basic concept was successful.[61]

Because this option involves a new use of businesses to support the dispensing effort by providing more than just facilities or just people as volunteers, further discussion is required. While searching for sufficient volunteers and assisting businesses that were attempting to prepare for response to a bioterrorism incident or a natural disaster, the Georgia Division of Public Health was invited by Conrad Busch, the Director of the Metro Atlanta

[61] The author was the Emergency Preparedness Coordinator of the Georgia Division of Public Health in August 2005 during the exercises referenced. Pam Blackwell was the Cobb-Douglas Health District Emergency Preparedness Director. The comments concerning the exercise are a summary of multiple discussions prior to and following the exercise.

Region of BENS, to join the local chapter to assist in its efforts to better prepare the business community for response to a terrorist incident. The BENS Atlanta Chapter established a bioterrorism advisory group to coordinate the development of a preparedness guide for small- and medium-sized businesses. The result of that effort was the pamphlet, *Getting Ready: Company Primer on Preparedness and Response Planning for Terrorist and Bioterrorist Attacks.*[62]

The initial association with BENS led to further consideration of ways business could support public health in countermeasure response and administration, and particularly the mass dispensing effort. The basis for the concept of support was that large businesses, as volunteer resources, traditionally serve as a deep reservoir of manpower. Some have also volunteered facilities under special circumstances to support disaster response. However, looking beyond the people and facilities resources, the public health response planners saw that large businesses as volunteer entities could bring personnel, both medical and non-medical, in organized teams prepared to assist in the delivery of the medications and more.[63] Corporate participation would bring management, organization, leadership, facilities, transportation resources, security, communications, and coordination support.

Facilities available through large businesses would vary, of course, but most large businesses have areas that are easily modified to serve as dispensing sites. Similarly, many large companies have transportation resources, both vehicles and drivers, to support the dispensing efforts in moving supplies, medication, or personnel. The involvement of the private businesses could greatly simplify the coordination requirements for personnel, locations, and transportation.

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[62] Business Executives for National Security, *Getting Ready: Company Primer on Preparedness and Response Planning for Terrorist and Bioterrorist Attacks* (Atlanta, GA: BENS "Atlanta Chapter, 2006.

[63] The author served as one of the Georgia Homeland Security Taskforce representatives to the BENS and Georgia Business Force Homeland Security Operations Group and its Consequence Management workgroup from 2003 to the present.

Security is normally an internal or contracted activity for corporations. Coordinating with those assets for security during the dispensing operations at the corporate site will relieve some of the pressures being placed on local law enforcement.[64] Therefore, this option would require closer coordination between corporate security and local law enforcement, but would build on the public-private partnerships that have grown since 9/11. The exchange of information, strategies for internal and external security, and interoperable communications will need coordination between private and government security agencies. However, since the attacks of 2001, law enforcement agencies and corporate security have been sharing more information on a regular basis.

Table 3.3 shows the strengths and weaknesses associated with the corporate option. Changes to liability and indemnity legislation still need to be addressed. Corporate participation is ruled by weighing the benefits to be gained from being a good citizen of the community against the possible costs of participation. Some of the costs go beyond the immediate loss of productivity on the day of dispensing, carrying over into workers' compensation or other injury liability that could be associated with support of a mass dispensing operation.

Strengths	Weaknesses
• Full community support for the response • Existing infrastructure—leadership, organization, facilities, transportation, staff • Medical and non-medical staff availability	• Liability of businesses • Indemnity issues for businesses
Opportunities	**Threats**
• Public relations showing support for the community, employees, families • Public health staff available for other pressing needs • Follow on cooperative activities between government and businesses	• Perceptions of favoritism • Stigma of being "contaminated" • Training and exercise requirements

Table 3.3 SWOT for the Corporate Support Option

[64] This comment requires a caveat. Many employees of private security companies, and many security employees of corporations, are also active law enforcement officers who are working around their primary job schedules.

The opportunities offered by Option 3 begin with the positive public relations benefits for both the government and the businesses involved. Successful planning and coordination of this effort could yield great confidence in the community and its ability to respond to the aftermath of a large scale bioterrorism incident. A lesser opportunity comes through the possibility of cooperative efforts in other health matters and community affairs. There are risks associated with this option. Some members of the community may feel disenfranchised or unsupported by this option. There is the possibility that the government might be perceived as giving preferential treatment to one business over another.

D. OPTION 4: COMPOSITE SUPPORT RESPONSE USING A MIX OF THE THREE OPTIONS

In the composite option, all three of the previously discussed options are used to provide rapid dispensing of antibiotics. The casual observation might be that combing the three options provides the best response by using all the resources available to move the antibiotics quickly. Clearly, this option has the advantage of enlisting full community support. Corporate and government leadership work together to address the immediate problem facing the community. However, there are concerns that must be addressed in this option. Just as the positive aspects are enhanced in this option, there are weaknesses that must be considered. The planners will need to organize command and coordination efforts to determine whether phasing of the combination of the options for the response would best bring resources to bear. Communications and leadership coordination must be clearly identified and practiced.

Table 3.4 shows the strengths and weakness associated with the combination option. The legislation needed to support the combined option will include that needed in both the postal and corporate options. (Although the need for client data and other desired interaction between medical professionals and those who are receiving the antibiotics will further influence the selection of viable areas for the postal option.) The the opportunities and threats of the combined option amplify those found in the individual options.

Strengths	Weaknesses
• Full community support for the response • Existing infrastructure—leadership, organization, facilities, transportation, staff • Medical and non-medical staff availability	• Not everyone gets same mode of support • Requires changes in legislation
Opportunities	**Threats**
• Involves full community • Can support development of local ownership of the problem and its solution	• Possible appearance of inequity • Miscommunication • Nonparticipation by key organizations

Table 3.4 SWOT for the Composite Support Option

While the legislative issues must be addressed across the board, determining the right mix of options will remain a local issue. Selection of the options to use, and where and when to implement these options, is a local decision that will be supported by available federal and state assets. All assets, once provided to the local government for use in response to an incident, become local assets until the disaster is determined to have been contained. Information sharing within the community is critical. Transparent local decision making will prevent distress within the community that can be caused by perceptions of inequity in delivery and dispensing. Reported instances of panic and fear associated with food and water distribution sites during flood response activities support the need to be clear and open in sharing information. Most of these activities, however, will need to be initiated long before large numbers of federal or state resources are available. Local response planners and policy makers will need to address the right mix both as a part of planning and preparation as well as part of the initial response implementation.

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IV. ANALYSIS OF THE OPTIONS

This chapter provides a comparison of the four major options being considered at this time—public health agencies assisted by traditional volunteer methods, public health assisted by the U.S. Postal Service, public health assisted by corporate volunteers, and a combination of the options to best reach the community. The options add different levels of value to the community response. The analysis uses the values listed in Chapter I as the criteria for evaluation. For each option, a strategy canvas will be used to illustrate how well the option meets the key criteria. The criteria will be listed along the *x* axis and the extent to which the option meets that requirement (high versus low *y* value) will be shown on the *y* axis. The purpose of the strategy canvas is to provide a visual context of the degree of sufficiency found within the option to support the goal of saving more lives and creating confidence in the community's ability to respond to the threat of terrorist attacks.

A. CURRENT PUBLIC HEALTH AND TRADITIONAL VOLUNTEER RECRUITING OPTION

The current public health response option calls for public health employees to identify dispensing site facilities and coordinate the staff and other support required for the dispensing site operations. Using community committees with representation from key government agencies has encouraged some community ownership of the process. However, exercises conducted to evaluate response capacity and capability have experienced limited involvement from any agencies outside the primary planning groups. Coordination of personnel, facilities, and security has been driven by public health, and has received varying degrees of support.

Although this option is most frequently exercised, the response time has not been effectively measured. Exercise assumptions remove the more vexing problems, such as volunteer shortages and security demands of the community in general, and fail to adequately consider the competing needs of the community. The multiple demands of emergency response for medical and non-

medical volunteers, for security support, and for facility support are rarely considered by the exercises. There are, however, some assumptions that can be made concerning the response time associated with this option. The time at which any alert or alarm that requires public health and volunteer response occurs will affect the rapidity of the response. Events that take place after hours, on weekends, or on holidays will have a delayed response. Notification of volunteers and effective response times will require greater coordination to achieve participation by people with the right skills within the timeframe identified.

As discussed in Chapter III, this option provides dispensing sites to support mass prophylaxis. It provides a capacity greater than that of the community alone, with its daily response options of local pharmacies, clinics, and hospitals. It is the first step towards creating greater dispensing capacity within the community. It enhances the availability of medical care providers to support screening and dispensing by soliciting the support of medically trained volunteers and by using clinical public health employees.

Unfortunately, this option does not have an internal security support system. Public health officials have worked with local law enforcement officials to identify security requirements. The activities at the dispensing site require law enforcement support for traffic control, crowd control, and general security coordination. The CDC has also requested special security considerations for the TARU, which accompanies the SNS materiel. This support is coordinated with local and state law enforcement by the U.S. marshals who will accompany the stockpile. This security requirement will draw security resources from other needed activities within the community.

Dispensing site design considerations for current operations include the need for gathering client information while people wait for their medication. Screening and dispensing are both supervised by clinical professionals. As part of the dispensing process, those who are getting antibiotics complete questionnaires. Because the people come to the dispensing site, there is redress available for them on site.

The efficiency and timeliness of the current system could be improved if state and local legislation were modified. The requirement for specific levels of clinical supervision of dispensing imposes some restrictions on dispensing site operations. This requirement could delay dispensing site activities solely for the lack of a pharmacist or a physician.

Clearly, one of the greatest problems with this option is the need for large numbers of non-medical support personnel, which public health is unable to provide directly. People are needed to provide logistical support, resupply of the facility, administrative support for various actions within the site, general line management, and command and control support.

Figure 4.1, a strategy canvas modified from *Blue Ocean Strategy*, shows the relative performance variance of current planning and procedures for dispensing site operations within the selected values. Running from high support of the dispensing site operations to low support, the chart provides a quick view of possible problem areas within the response.

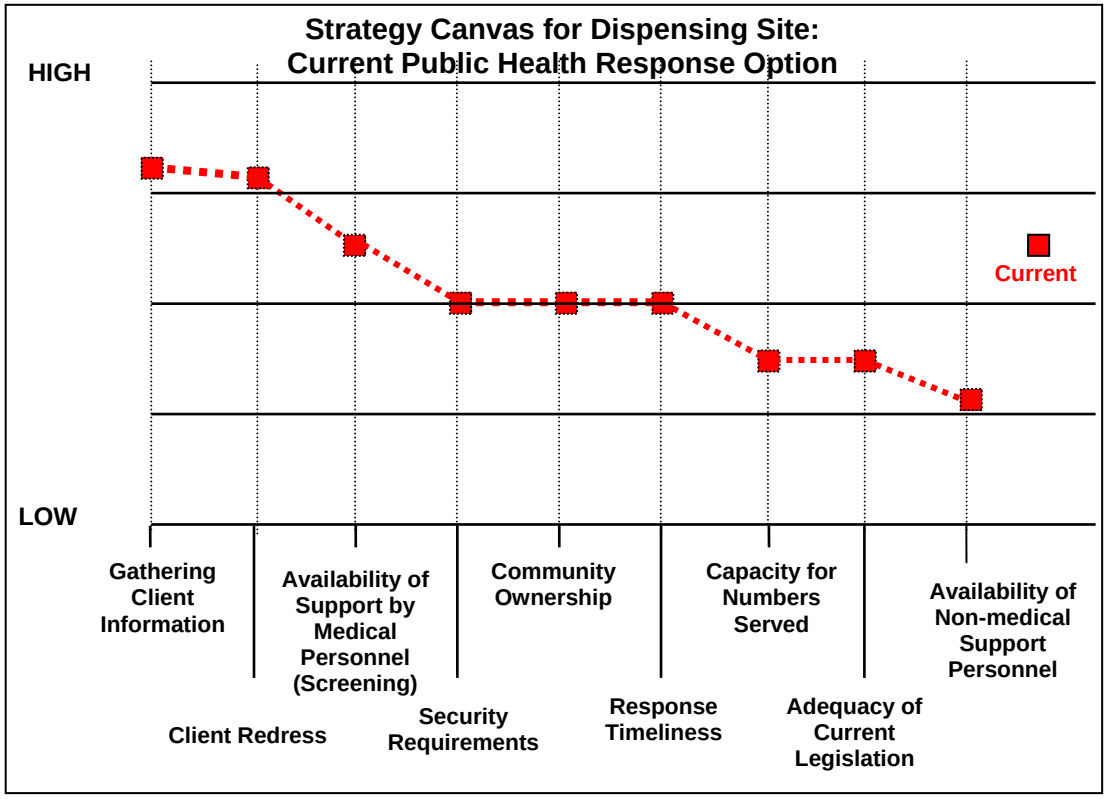

Figure 4.1 Strategy Canvas for Current Public Health Response Plan

Does the option encourage community ownership of the problem? This option builds the response around the local public health organization. There is some community ownership in supporting the effort, but it is limited to the agencies immediately involved in planning for the response and the direct contacts for volunteers.

Does the option provide for better response time to the problem? This option provides the baseline for response times against which the other options are compared. Its response time is limited to the availability of the public health employees and the volunteers who will assist in establishing the dispensing sites.

Does the option increase the number of people who can be served within a given timeframe? Again, this option establishes the baseline against which the other options are compared. It is limited by the number of sites that public health employees can staff and support within the metropolitan area.

Does the option enhance the availability of medical care providers to support screening and dispensing? The current planning uses public health clinical and other medical professionals as the base for support of the dispensing sites. Medical professionals as volunteers further enhance the availability of medical care providers to support screening and dispensing.

Does the option reduce the security personnel requirements? The security requirements of this option are determined by local law enforcement per the SNS guidelines. The requirements for this option establish the baseline for the comparison of the other options.

Does the option support gathering needed information about the people who receive the medication? Data gathering requirements are planned as part of the activities of the dispensing sites managed by public health agencies. The planners have considered various methods to streamline the process, and it is a major consideration for the dispensing site operations.

Does the option provide redress for the clients? As with the gathering of information and the screening and dispensing support, this option has medical

personnel on site to provide assistance to people who have additional issues concerning the antibiotics or the disease. This option sets that baseline for evaluating redress for the clients.

Does the option require new legislation or changes in existing legislation? There are some areas that require further legal review. Legislation to address the actual dispensing of antibiotics by non-medical personnel might further support this option. However, the option is built around current legislation and could run without any change in the legislation addressing special executive orders from the Governor.

Does the option enhance the availability of non-medical support personnel for dispensing activities? This option is limited in the availability of non-medical support personnel. It relies on traditional individual volunteers to provide most non-public health employee support at the dispensing sites.

B. THE UNITED STATES POSTAL SERVICE OPTION

Using the postal service to support the public health mass prophylaxis effort provides for swift general delivery of the antibiotics. However, the USPS is generally seen as a federal agency even though it is a private operation. The memorandum of agreement among DHS, DHHS, and USPS serves to further alienate local and state public health and emergency management planners and responders and further removes local ownership of the problem and its solution.

The USPS option provides better response time to the problem. By using a system that is already in place for daily delivery to residences and businesses, the planners would avoid the need to establish any other direct delivery means. Postal delivery workers have indicated a desire to support the response effort. Using the postal service has the potential to reach a greater number of people within forty-eight hours, as this group reaches out to every mailbox in every community at least once every twenty-four hours.

This option also provides a great resource for non-medical support personnel for dispensing activities. The use of the postal system provides personnel who are well versed in the logistical support needed to move

something quickly through the community. The support personnel of the postal system will also be able to assist with the further breakdown and repackaging of the medication for delivery through the mail system.

One of the difficulties with this option is the inability to provide direct supervision by medical care providers for screening and dispensing. With the antibiotics delivered directly to the residence, there is no interaction between a physician or nurse and the individual who will be taking the medication. There are certain contraindications for some of the antibiotics planned for use in the initial response to an anthrax attack. The clients have no immediate means of redress should they have questions concerning the medication. (A flyer with contact information is to be distributed with the antibiotics.)

This option also poses problems in supporting the need to gather information concerning the medical history of those receiving the medication. Several methods are being considered to cover this gap, ranging from asking the individuals to complete a postcard to requesting that they go on-line to complete a questionnaire. These activities are unlikely to be successful because all the suggested approaches require voluntary action on the part of the client.

The USPS option actually increases the requirements for security support. The postal service has requested security support for each delivery worker while on the route to dispensing the antibiotics. Depending on the size of the community served, this could be a very large security requirement to be met at the same time that security is being established for community dispensing sites.

The USPS option requires setting aside laws governing the dispensing of antibiotics. In this case, there would be no clinical supervision of the medication from the time that it is provided to the mail delivery service. State legislation will be needed to support this option.

The strategy canvas developed for this option, found in Figure 4.2, shows the relative performance variance for dispensing operations within the selected values. Although this option increases the timeliness of the response, there are severe shortfalls to be addressed in monitoring client health. Also, the need for

legislation to support the concept is clear, as there is no medical supervision once the medication enters the mail system. For this option to be viable, the state laws will have to permit delivery without direct supervision by a doctor or pharmacist.

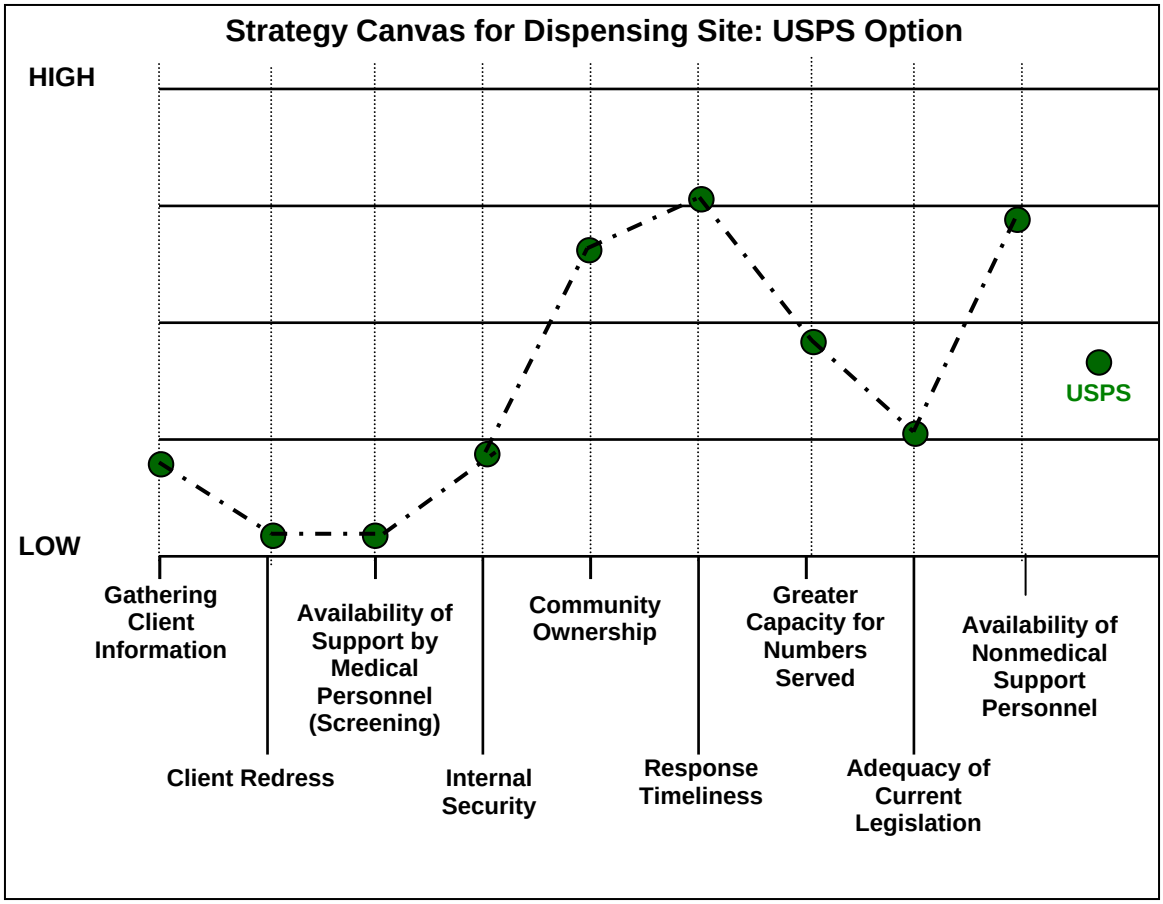

Figure 4.2 Strategy Canvas for USPS Support Plan

Does the option encourage community ownership of the problem? The USPS option places the expedient response to the problem into the hands of an agency that is seen as a federal or national entity. The community ownership may not be enhanced by this option. However, the mail carrier is also someone who is seen within the community every day and is identified as a community asset.

Does the option provide for better response time to the problem? The option using the USPS to support the mass dispensing of prophylaxis does provide for a better response time. This option, by itself, does not require a dispensing site operation. The antibiotics could be issued directly to the mail carrier from a distribution center. The delivery of medication would be completed in the same amount of time that the mail is delivered.

Does the option increase the number of people who can be served within a given timeframe? The USPS support option greatly enhances the capacity to serve the community. However, it is not the complete solution. Transient populations will not be well served by this option, and other considerations must be given for travelers, the homeless, and others who would not fit this option.

Does the option enhance the availability of medical care providers to support screening and dispensing? This option does not enhance client screening and the dispensing of antibiotics by medical support personnel.

Does the option reduce the security personnel requirements? The requirement to provide a law enforcement officer to accompany each mail carrier places an additional requirement upon security, not a reduction in the requirement.

Does the option support gathering needed information about the people who receive the medication? The USPS option does not fully support the gathering of medical histories and other data desired, and in some cases required, by public health officials, as in the use of investigational drugs for the response. This option relies upon the individual medication recipient completing a questionnaire and mailing the form to the local public health agency.

Does the option provide redress for the clients? The USPS option does not provide direct redress for the people who receive the drugs. They cannot ask questions of a technical nature of the mail carrier. There is, however, the possibility of providing support for redress via the internet or through a call center. This would require additional planning and coordination to implement.

Does the option require new legislation or changes in existing legislation? This option will require new legislation or an executive order to permit mail carriers to dispense medication.

Does the option enhance the availability of non-medical support personnel for dispensing activities? The USPS option provides a great deal of non-medical labor to support the mass dispensing effort.

C. THE CORPORATE SUPPORT OF PUBLIC HEALTH OPTION

Involving the community business leaders and their companies in planning and preparation for response to a bioterrorism incident encourages ownership of the problem by all the resources of the community. It also increases involvement of government agency leadership in the coordination of the planning. It encourages the use of the total community in planning and preparing for response to a disaster that would require mass prophylaxis. It has the potential for better response time as the workplace becomes the dispensing site for a large part of the community. Those supporting the dispensing site are reporting to their normal workplaces rather than trying to find a location with which they may not be familiar.

The corporate option adds to the number of people who can be served as it frees public health officials to open and support other facilities, while the corporation's employees can support other dispensing sites once they have received antibiotics themselves. It enhances the availability of medical personnel by using the corporate staff clinicians to supervise the dispensing operations. It also enhances the gathering of needed information about the people who receive the medication, as the corporation's medical section can perform the screening and collect medical histories. The option provides for client redress through the medical personnel who will be on site. This option reduces the pressure on local law enforcement for security by using the company's own security provider to meet this need. Coordination between the security section and local law enforcement will further strengthen security at the dispensing site. The availability of non-medical support personnel for dispensing activities is supported by the bulk of the company's employees.

There is a need for new legislation or changes in existing legislation with respect to the state “Good Samaritan” laws. Corporate lawyers have expressed some concern with liability and indemnity issues should companies agree to support the dispensing efforts.[65] Without changes in state and local ordinances that address these concerns, recruiting local businesses to support this effort will be exceedingly difficult.

The strategy canvas in Figure 4.3 shows the improvements expected with corporate involvement in the dispensing effort and this option’s variance for dispensing operations support within the selected values. This option appears to bring all the community resources to bear upon the problem. Of particular note, the concept of total community response to the problem begins to take shape with this option. It also shows the need for legislation to support this option.

[65] From author’s discussions with BENS members, their company operations officers, and their company legal representatives at SNS support planning meetings from October 2003 through January 2007.

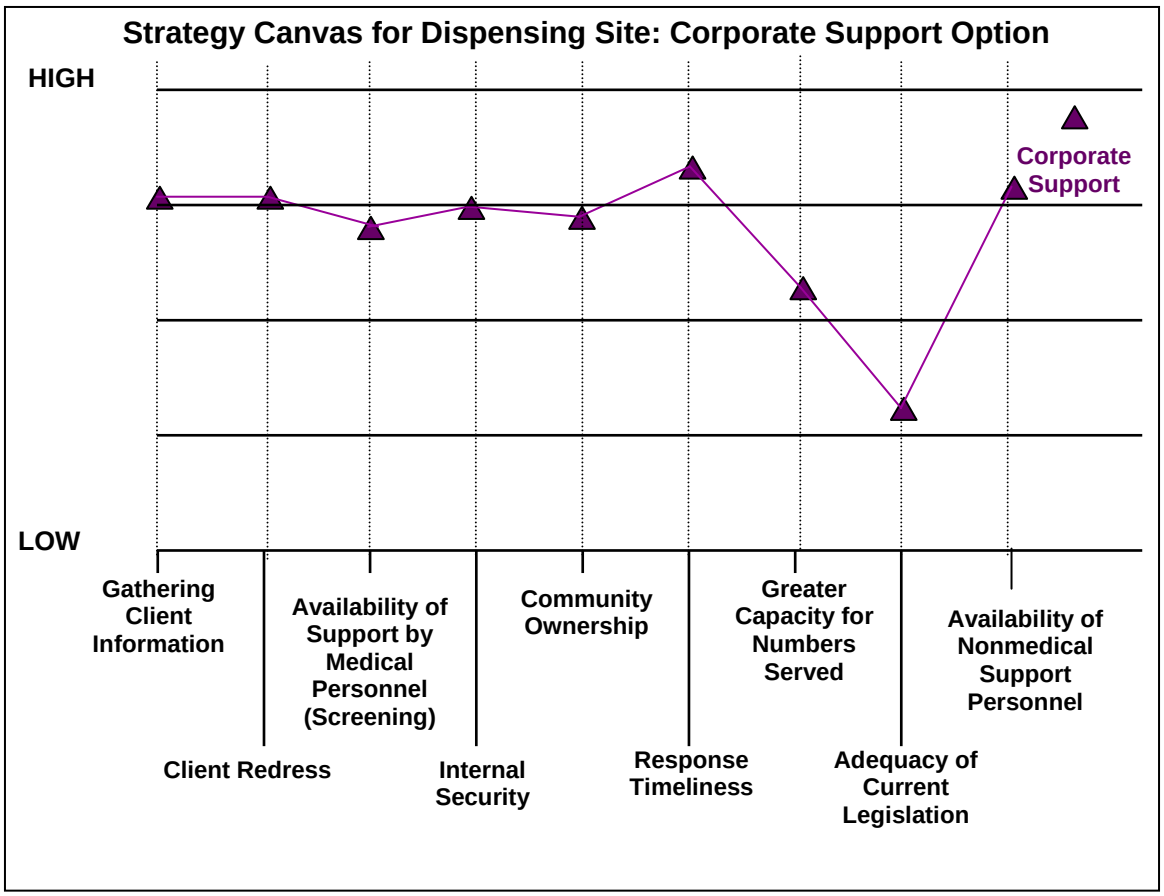

Figure 4.3 Strategy Canvas for Corporate Support Plan

Does the option encourage community ownership of the problem? Yes, this option encourages community ownership of both the problem and the solution. Community business leaders become partners in supporting the response. The government and private business partnership serves to bring the community into the planning and preparation for the response.

Does the option provide for better response time to the problem? The response time will be enhanced by the additional locations and the employee familiarity with the facility being used. Additional support will also be available to assist at the sites, increasing the number of people who can be served.

Does the option increase the number of people who can be served within a given timeframe? It supports better response time by providing alternative locations for dispensing, by providing more staff and management options for the response, and by freeing up government staff to work other locations. However,

the people being served will have to come to the dispensing site. Depending upon implementation of the option, this could include both employees and nonemployees being served by the company.

Does the option enhance the availability of medical care providers to support screening and dispensing? Using the company medical staff will enhance the dispensing site effort by making more public health medical professionals available to support the public dispensing sites.

Does the option reduce the security personnel requirements? Additional security support is not necessitated by this option. Corporate security becomes the site security support.

Does the option support gathering needed information about those who receive the medication? As with the public health agency locations, the medical personnel and their support group within the company will be able to take medical history and other information desired by the local public health agency directly from the people at the site.

Does the option provide redress for the clients? Medical staff will be on site, so there is immediate redress for the clients.

Does the option require new legislation or changes in existing legislation? The business community has requested modification of the “Good Samaritan” laws to protect them from liability and indemnity litigation. This change would not protect them from willful negligence, but would protect them from incidental injuries.

Does the option enhance the availability of non-medical support personnel for dispensing activities? This option brings the workforce of the community to bear. The community ownership of the problem and its solution greatly enhances the availability of non-medical labor to support the mass dispensing effort.

D. COMPOSITE OPTION

Just as the corporate support option enhances community ownership of the problem, so too does the concept of a composite option that combines the

three options discussed earlier. The decisions concerning the right mix of strategies will be a local government responsibility, to be supported by state and federal assets. If the necessary planning and coordination are undertaken prior to the incident, this option will be timely and reach more people faster and more efficiently than any of the other options by themselves. However, if the decisions about where to implement which option are made during a crisis without full community coordination, this option would be too complex to be accomplished efficiently or effectively.

The combination option has both the best and worst features of the previous approaches. Because it considers the use of the postal option, there would be some parts of the community where medical supervision, data collection, and client redress will not be well supported. Other sections of the community will be better served in those areas, but the people will have to travel to the dispensing sites. Parameters will have to be established, and the local elected and appointed officials will need to be involved in developing and implementing those decisions.

Similarly, this option enhances the availability of non-medical support personnel for dispensing activities. Using both the postal option and the corporate option provides for greater numbers of non-medical personnel to support the effort. It also gives the planners more options for focused effort in the response.

The security demands for this option are not as heavy as those for a pure postal option, nor are they as limited as for the corporate option. The section of the community supported by the postal option will still require additional law enforcement support, while the areas supported by the corporate option will relieve some of the security pressures.

This option will require legislation to address all the concerns found in the three previous approaches. Choosing to move forward with this option will actually cause a greater expenditure of effort to achieve the change in state law.

However, the legislative changes would be supportive not only of response to a terrorist event, but any outbreak that required mass prophylaxis in a very short timeframe.

Figure 4.4 uses a strategy canvas to show the variance for this option within the selected values for dispensing operations and shows that the composite option exhibits both the best and worst of the individual options discussed within the criteria established for this investigation.

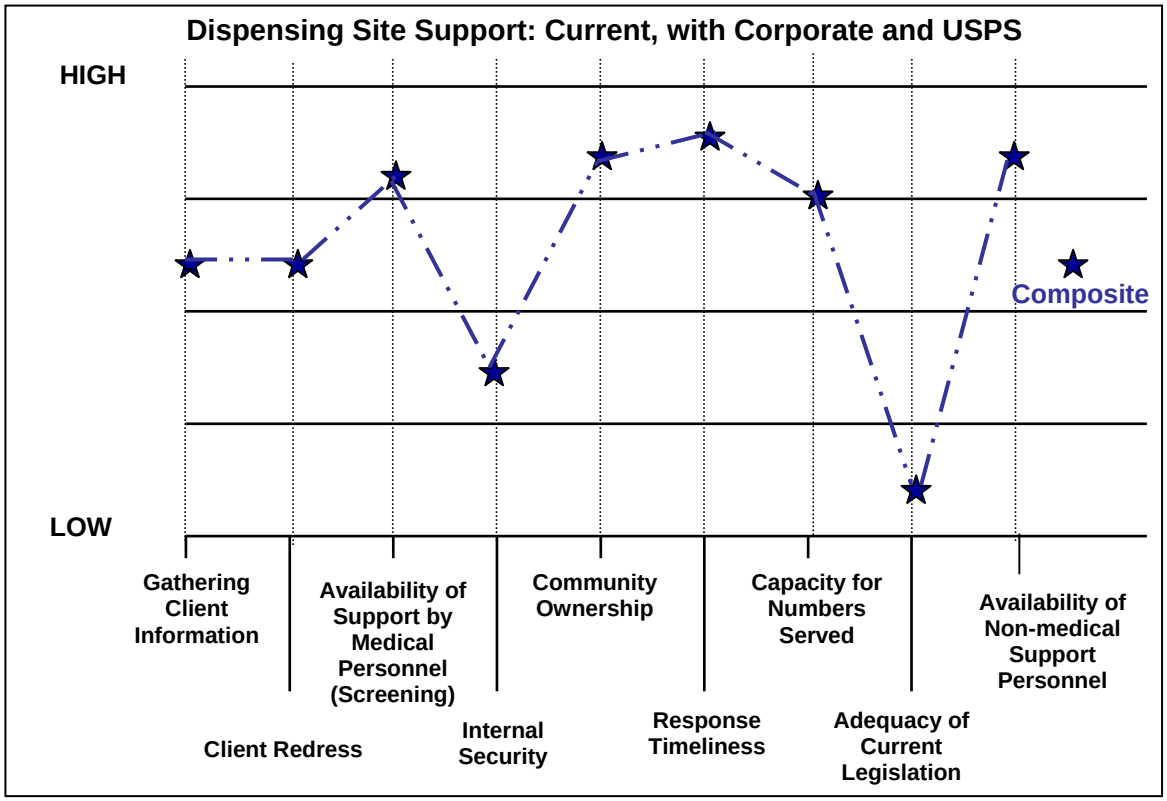

Figure 4.4 Strategy Canvas for Composite Support Plan

Does the option encourage community ownership of the problem? Yes, this option encourages community ownership of the problem. Bringing all three options into play will require active participation by community leaders.

Does the option provide for better response time to the problem? Using all three options will improve response time over the baseline response of public health organizations supported by traditional volunteer support.

Does the option increase the number of people who can be served within a given timeframe? The option provides alternatives that would meet the need to reach not only the residents, but also the transient populations within the geographical area requiring support.

Does the option enhance the availability of medical care providers to support screening and dispensing? The answer is both yes and no. For the areas selected for support by the USPS option, the availability is not enhanced, but the use of the corporate sites will add to the number of locations within the community that will have medical support.

Does the option reduce the security personnel requirements? This option does not reduce the security requirements of the dispensing sites, as the areas using the postal option will require law enforcement support. However, it does make use of corporate security so there are no additional security requirements at those locations. This option also increases the need for information sharing among the law enforcement and security elements of the community.

Does the option support gathering needed information about the people who receive the medication? This option does provide for gathering data at the dispensing sites. However, it will not fully support gathering data for those who receive the medication through the mail carriers.

Does the option provide redress for the clients? It does provide some redress for the clients.

Does the option require new legislation or changes in existing legislation? The composite option will require all of the legislative changes that each of the component options would require.

Does the option enhance the availability of non-medical support personnel for dispensing activities? Yes, the composite option enhances the of the community labor pool. It reaches into the community for support from government and private business, taking advantage of the workforce throughout the community.

E. BENEFITS AND RISKS

1. Benefits to Government

Considering these four options, the government at all levels could benefit greatly from the public relations gained by showing that private industry and the multiple levels of government are working together for the support of the community. The corporate option in particular lets business and government collectively approach a problem that neither seems able to adequately solve alone; it allows them to enhance one another's strengths by working together. This partnership then enhances the preparation of the community for response by gathering the resources of the community in a coordinated response.

One of the key benefits for the government is having centralized volunteer coordination provided through the businesses of the community. Rather than depending on the unreliable numbers of volunteers expected through individual traditional volunteer activities, this option provides planners a member of the community (a business or corporation) with a self-interest tied to the community's survival. Logistics of the dispensing operations appear to be better defined as responsibilities for support are aligned with the company providing the facilities for the dispensing site. Finally, the security requirements will be shared, rather than shouldered by law enforcement alone. Tying corporate security to the security activities of the dispensing site that the company provides aligns law enforcement with corporate security, and lets law enforcement continue in a supervisory role without expending precious law enforcement resources.

2. Benefits to Corporations

The public relations benefits for corporations include embracing their civic responsibility to the community and again, as with government, the gain that comes from working together to protect the community. In addition to the public relations benefits, the companies gain in community involvement and identification with the employees. The planning and preparation can serve to strengthen management and leadership relationships within the organization.

Another benefit gained by the companies is found in the care of employees. Employees who receive the antibiotics are more likely to survive and continue to work. In supporting the dispensing effort, the company is protecting its workforce.

3. Benefits for the USPS

The benefits for the postal service are similar to those of the corporations. Participating in the mass dispensing efforts increases the sense of belonging to the community, identifying them as the premier delivery system for the community. It also ensures that the postal service workforce is among the first to receive the antibiotics. In serving the community in this disaster response, the postal service enhances pride within the agency.

4. Risks for Government

There are risks involved in these options. For the government, there is the admission that government cannot successfully support the community without assistance. The government is depending on volunteers, both for numbers and for skills, to meet the dispensing sites' operational requirements. There may be an increased liability for the state or local government depending upon changes made in the state laws.

Politically, there is a risk of a perception of favoritism or inequity in the support given, i.e., that certain segments of the community are receiving preferential treatment. This happens frequently during response to hurricane or tornado damage, when water is delivered differently in various parts of a community. To counter any appearance of inequity, the community must use a fully transparent planning and response process.

5. Risks for Corporations

Under current laws, rules, and regulations, companies that are considering providing support for the dispensing operations within the community have several risks to consider. The first of these risks is liability for injury to someone from the general public, who is not an employee of the company, who is hurt while within the company's facility. The second is the risk of indemnity for

company employees if they are injured while supporting dispensing site operations. The final risk considered is the stigma that might be attached to the company if people reporting for assistance are believed to be contagious.

The private companies must consider liability for injury or other insult rising from the use of their employees or facilities to support members of the community not associated with that business. While the companies have insurance to cover routine injury that might occur with their employees or clients, this situation might be interpreted as being outside normal business operations. For example, someone on site, who is not employed by the company nor a usual or typical customer of the company, might be injured in a fall, and then bring suit against the company. Most businesses have indicated that they would like to have this situation addressed by ordinance or other legislation.[66]

The corporations must determine whether there is an implied contract to compensate their employees for any loss or damage resulting from participation in the dispensing activities. If the company is volunteering the services of its employees, does worker's compensation apply if they are injured while assisting public health? If either a company employee or another dispensing site client becomes ill after participating in the dispensing activities, does the company have a responsibility to provide compensation? State and local governments can assist in this with appropriate legislation lessening the exposure of companies. Georgia and North Carolina have jointly developed draft legislation to address shortcomings in current laws for both preparation for and response to disasters.[67] This legislation is meant to permit volunteers to participate in training and exercises before an incident as well as in disaster response without being concerned about liability for injury that is not caused by willful negligence. The legislation, as currently being considered, will cover emergency management workers, corporate entities, and healthcare workers.

[66] Author's discussions with members of the Georgia Business Force and the Atlanta chapter of the Business Executives for National Security, October 2003 to January 2007.

[67] This ongoing work is led by the efforts of Gene Matthews, as well as the legal advisors of public health in both Georgia and North Carolina. Drafts of the legislation that will be presented to the 2007 legislatures of the two states were reviewed for this investigation.

Depending on the biological agent involved, some organizations have stated concerns about becoming identified as the location that was possibly exposed to a biological agent because they supported the dispensing activities. This is an issue that has surfaced in discussions among both government-owned and privately owned facilities and is of particular concern for hospitals and schools. The stigma attached to a location may require considerable public health efforts for employee and general public education concerning the agent and its characteristics.

6. Risks for USPS

The postal service must ensure that its workers are protected, both from the disease and any possible attacks. Having been the victim of collateral damage during the anthrax attacks of 2001, the USPS must show its employees that it is taking every possible step to protect them from a repeat of those attacks. Just as the corporations are concerned about indemnity, the USPS is concerned about worker's compensation issues.

F. COMPARE AND CONTRAST OPTIONS

This section provides a comparison and contrast of the options, starting with a comparison of public health plus traditional volunteers and the option of corporate involvement. The strategy canvas found at Figure 4.5 provides a visual comparison showing that the corporate option actually builds upon the traditional model, enhancing the community ownership of the problem of dispensing, response timeliness, and the support of both medical and non-medical personnel to assist in the mass prophylaxis.

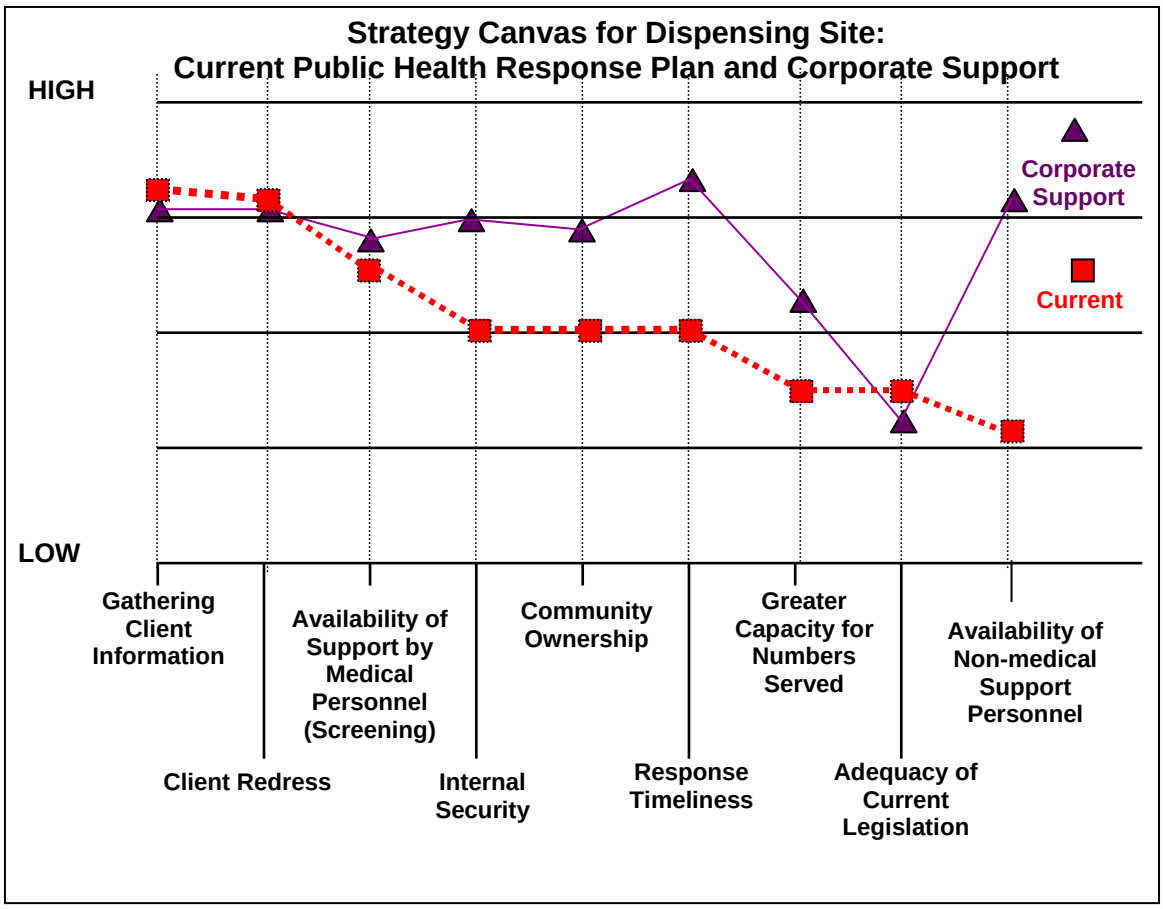

Figure 4.5 Comparison of Current Public Health Response Plan and Corporate Support Option

The corporate model, however, further increases the need for legislative adjustments that would encourage and support corporate participation in both the planning and preparation activities. The legislation required must cover not only the response, but also the training and evaluations conducted to prepare for the response. Business legal representatives have stated clearly, during meetings of the Georgia Business Force and the Atlanta chapter of BENS, that the corporate attorneys will not recommend participation in the effort unless companies are protected from liability risks other than those that would result from willful negligence.

These two options would work well in conjunction with one another. The corporate option would bring resources that would allow public health resources

to be used at other dispensing sites. As noted previously, it would also permit law enforcement to support public health site security needs as corporate security could cover the needs of the dispensing site run by the businesses.

The next comparison measures public health plus traditional volunteers against public health and USPS support. The USPS model has been strongly encouraged by the federal authorities. Figure 4.6 uses the strategy canvas to show a visual comparison of the two models. The evident strength of the USPS option when compared to the current option is the speed with which the USPS would be expected to deliver antibiotics throughout the community.

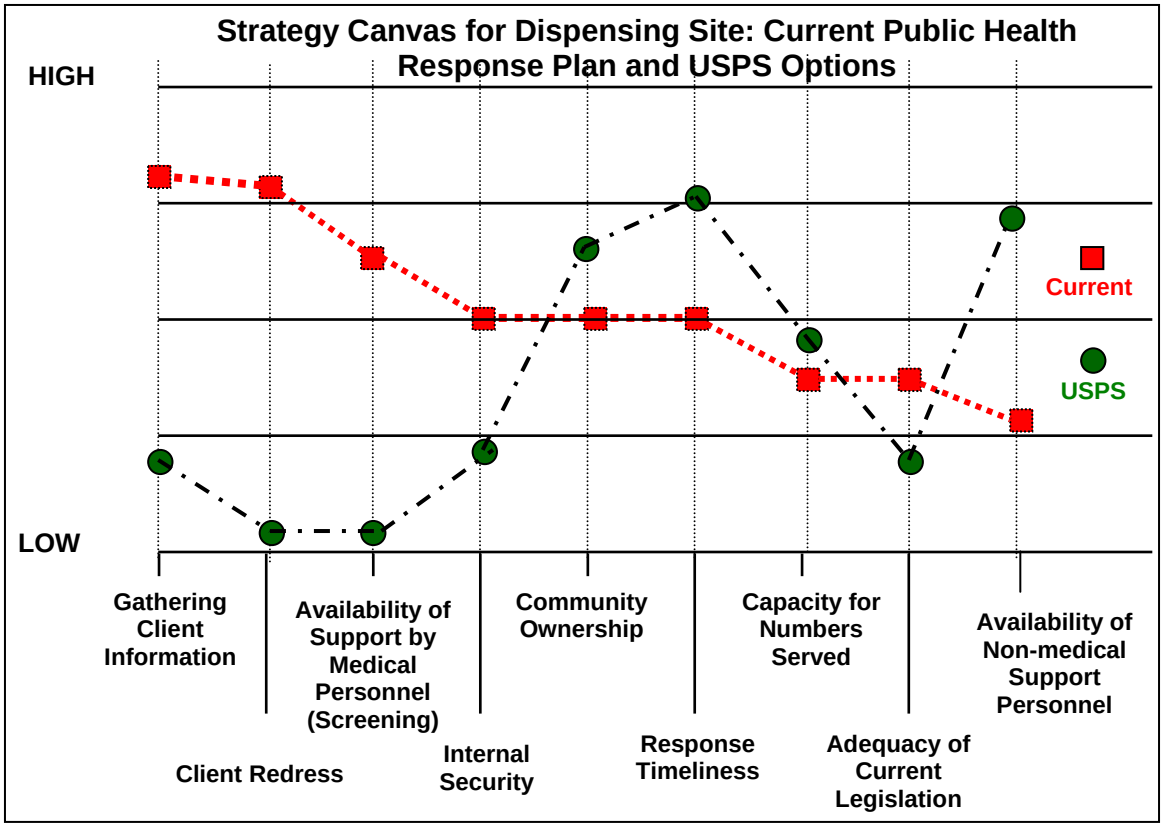

Figure 4.6 Comparison of Current Public Health and USPS Support Options

The shortcomings, however, are clearly depicted in the strategy canvas. Whereas the current public health option focuses on medical support to screen the individuals, gather medical histories, and assure client redress, the postal

option is focused on quick delivery. Also, the assumption that the mail carriers know the residents of the routes for each of the communities they will serve may be invalid. The carriers may support more than one route. If so, then at least one of the routes they support will not be their own daily route and this knowledge factor carries even less weight.

The next comparison is of the base option of public health and traditional volunteer support compared with both the corporate support and the USPS support options. The strategy canvas at Figure 4.7 shows that legislation associated with emergency preparedness and dispensing operations will require changes. All of the options are inadequately supported by current state legislation. Again, the weaknesses of the postal option are clear, but this is must be balanced against the speed with which the postal service can deliver antibiotics throughout a municipal area.

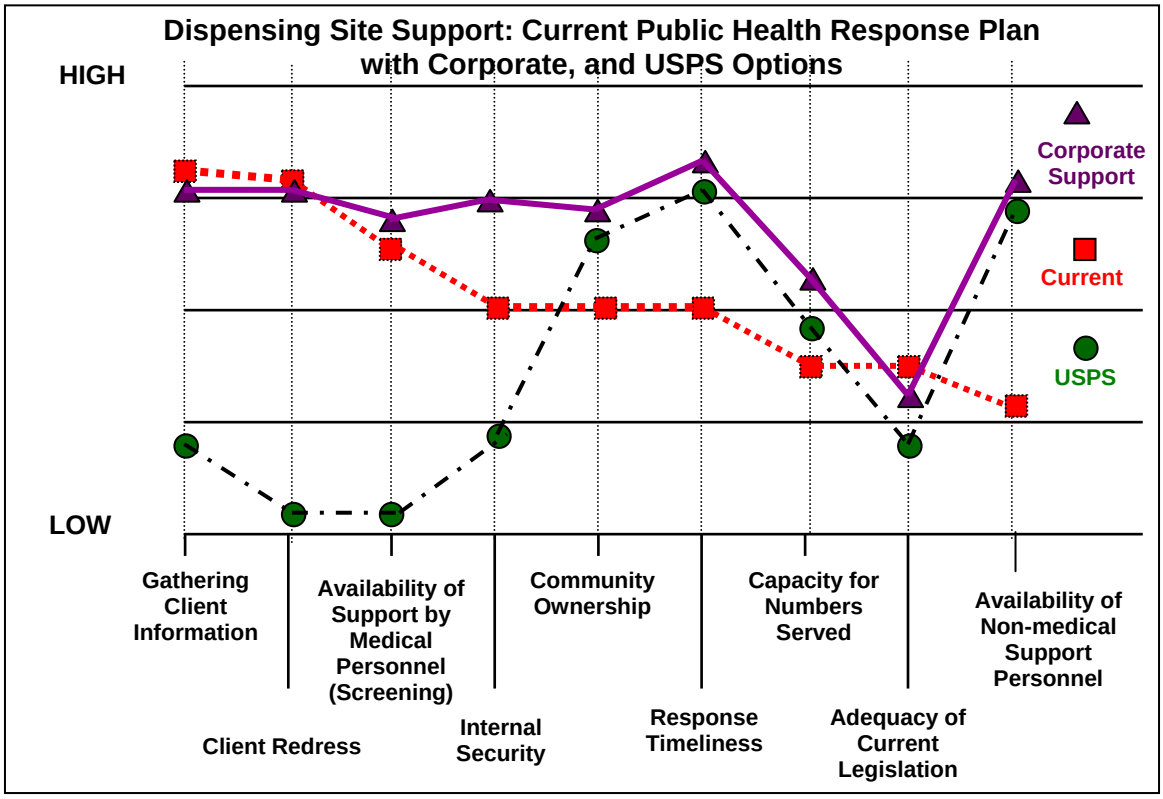

Figure 4.7 Comparison of Current Public Health Response, Corporate, and USPS Support Options

The strategy canvas at Figure 4.8 shows the composite option compared to the currently planned public health support option while the strategy canvas at Figure 4.9 provides a visual comparison of all four options. These are provided to further highlight the manner in which the composite option amplifies the high and low levels of support found in the other three approaches. The strategy canvas shows a drop in two areas when the composite option is compared to the current option. The security requirements are increased by the composite option, and, as one might expect, the current legislation is inadequate.

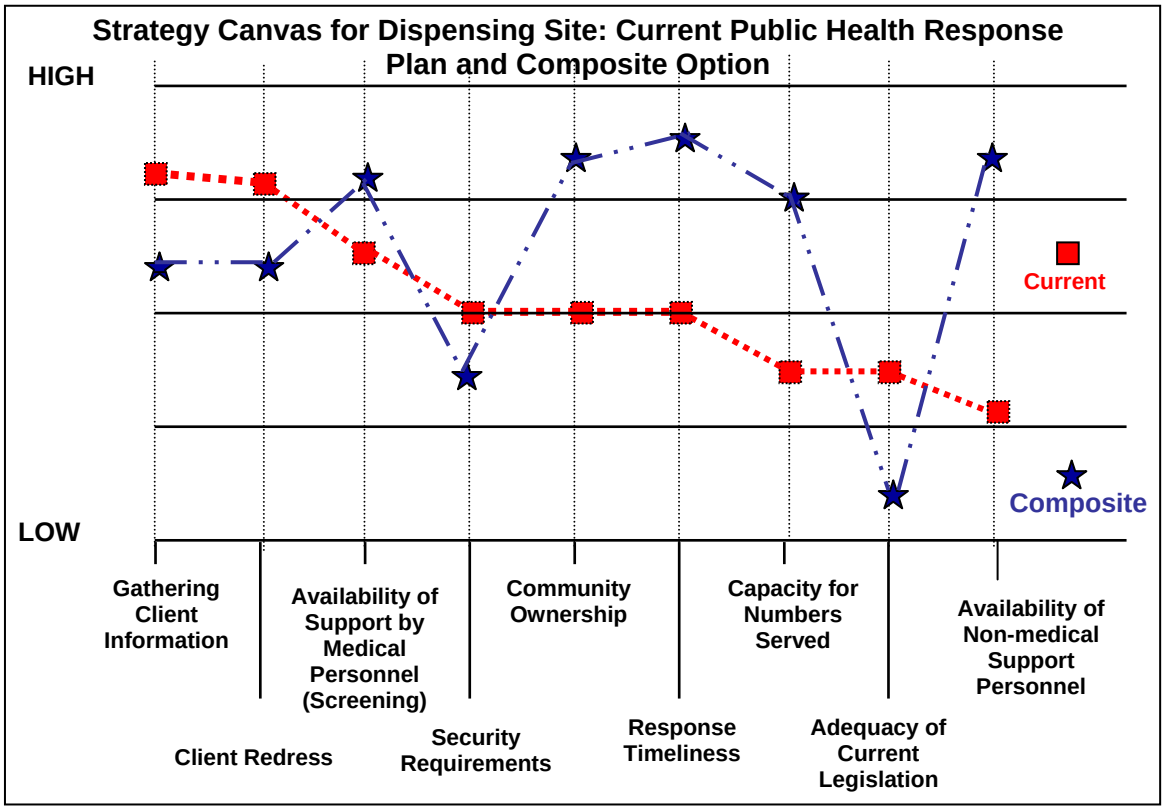

Figure 4.8 Comparison of the Current Public Health Response Plan with Composite Option

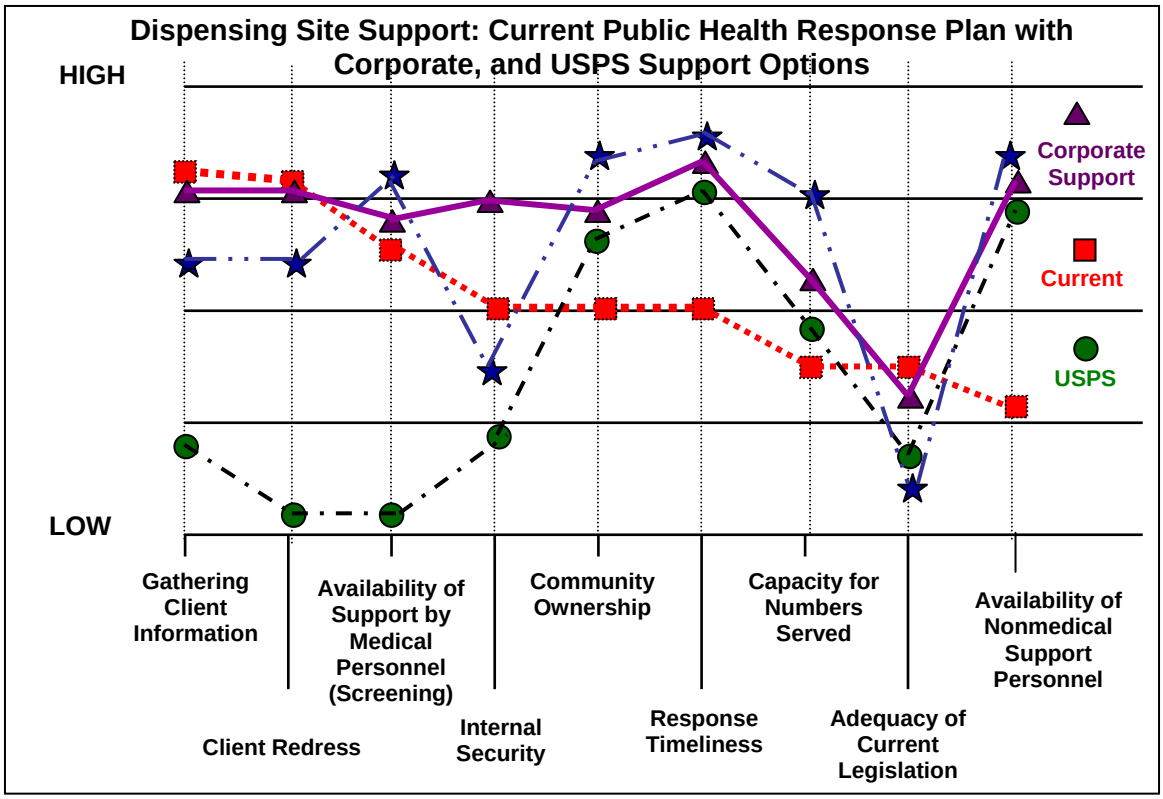

Figure 4.9 Comparison of Current Public Health Response Plan and Corporate, USPS, and Composite Support Options

What planners should understand from this comparison is that security requirements for the areas of the community selected for the postal option must be carefully analyzed by law enforcement to determine the amount of support needed for the carriers. The same must be done for the public health-coordinated dispensing sites. There must be a strongly supported sharing of information between law enforcement and corporate security concerning threats to the dispensing site operations.

The other issue to address is the changes needed to state law. The SNS guidance recommends that state public health agencies should strive to initiate change in the local and state laws to support dispensing operations during disaster response. In the interim, the guidance recommends that the state health

officer prepare documents supporting executive orders implementing emergency powers to support the needed dispensing activities.[68] The comparison of the options further supports the CDC recommendation.

G. SUMMARY OF OPTIONS AND VALUES

The investigation reviewed four options and their relative performance variance within the selected values. The current option calls for public health to orchestrate dispensing of antibiotics at sites throughout the affected metropolitan area. Staffing support is being sought through conventional volunteer methods, with recruiting of individuals as the primary source of additional staffing. This method is the base method that will be enhanced by the implementation of any other option. The second option reviewed was the USPS option. By providing direct delivery of the antibiotics to the residents of the community, the USPS option enhances the speed of delivery, but sacrifices data collection and client medical support to achieve that speed. The third option was the corporate support option. In this option, the business community steps forward as a volunteer entity, providing personnel, facilities, leadership, and organized management of dispensing operations at company sites that are operated concurrently with public health–managed sites. The composite option, the fourth option, combines all three approaches. While enhancing the overall dispensing effort, it does so at significant risk of perceived discrimination by sections of the metropolitan area. As noted, the differences in the delivery, the requirement to go to a dispensing site rather than having the medication delivered to the residence and the lack of direct interaction with someone identified as a medical professional while others have that assistance available can lead to perceptions of treatment preference being given to certain areas of the community.

The recommendation, based on this analysis, is the third option addressed in Chapter III: public health agencies conducting dispensing site operations and using the support of larger businesses within the community to provide additional sites, staff, leadership, and management for the mass dispensing effort. This

[68] CDC, *Receiving, Distributing, and Dispensing,* 12-2.

option encourages community ownership of the problem as the business community steps forward as a volunteer entity. The next chapter will address implementation issues for this option.

V. CONCLUSIONS

Now that there is a sense of the comparative value of the options, which of these alternatives is more likely to be successfully implemented? This chapter addresses the policy implications of the analyses presented in the previous chapters, and the need for further investigations into solutions for rapid dispensing. A review of the hurdles faced by planners implementing the options that are being considered will aid in the selection of options to use. Figure 5.1, Strategy Execution Considerations, demonstrates how these hurdles play into the choice of options for implementation and the questions that impinge upon those decisions.

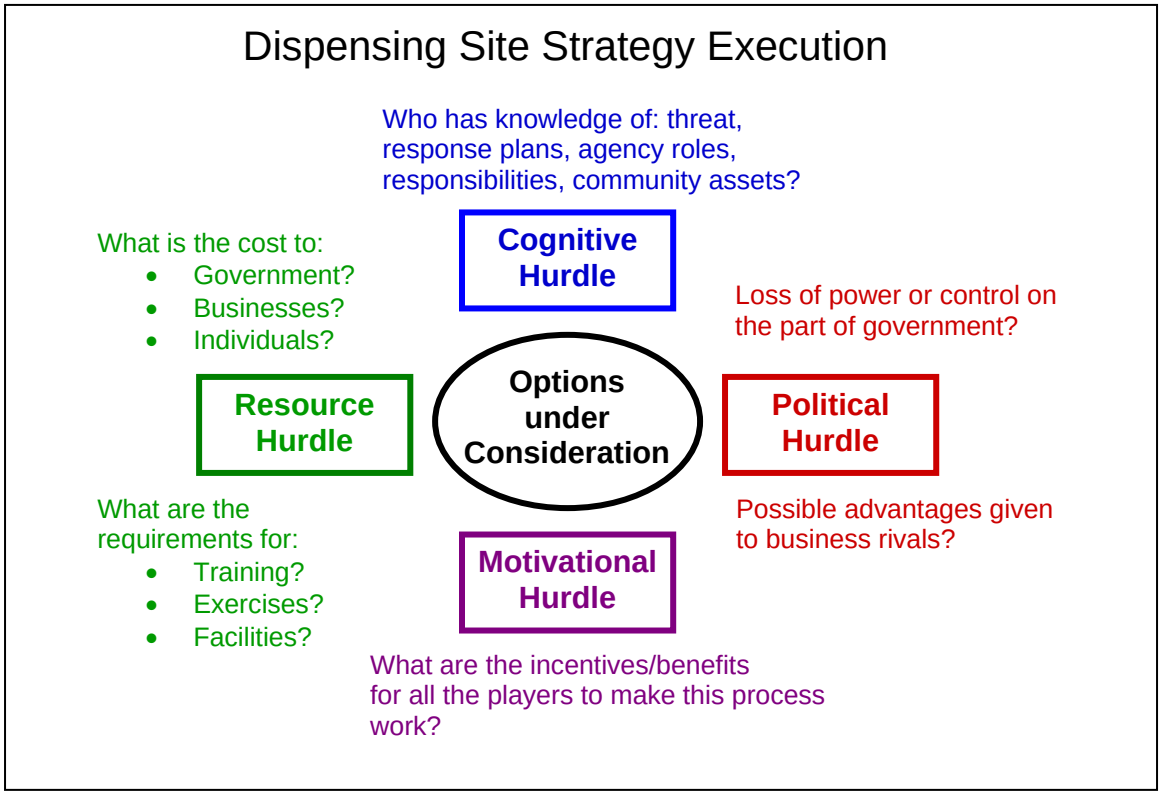

Figure 5.1 Strategy Execution Considerations[69]

[69] The idea for this representation of the Strategy Execution Considerations is taken from Kim and Marbourgne, *Blue Ocean Strategy*.

Using an analytical framework presented in *Blue Ocean Strategy*, the chart in Figure 5.1 identifies four systematic hurdles to successful implementation of a strategic plan. These include cognitive, political, motivational, and resource hurdles. For the cognitive hurdle, the question is who has knowledge of the threat, response plans, agency roles, responsibilities, and community assets? For the motivational hurdle, what are the incentives and benefits for all the players to make the proposed option work? For the resource hurdle, what are the requirements and what are the costs? For the political hurdle, is there any appearance of a loss of power or control on the part of government if a particular option is pursued and will possible business rivals gain real or perceived advantages using one option as compared with another?

The cognitive hurdle for the dispensing sites varies from community to community and state to state. In Georgia, the local planning groups for dispensing operations have included public health, emergency management, law enforcement, and fire and rescue operations. Some communities have received support from elected officials and some private businesses. Most of the knowledge concerning the threat and the plans for response to those threats has been held within a small circle of planners. Many more people will need to be brought into the planning circle for the options under consideration. These would include business leaders and planners, multiple state and local agency planners, and elected officials.

For support of the dispensing sites, the motivational incentives include survival, the well being of the community, civic duty, and good public relations. To borrow a quote often attributed to Stanley Weiss of BENS, “Being dead is bad for business.” He included his customers and employees as well as himself in this statement.[70] The motivational incentives for elected and appointed officials include the identification of a stable source of personnel and facility support for

[70] Conrad Busch (executive director, Atlanta Chapter of BENS) in discussion with the author, July 15, 2006.

dispensing activities. For the employees, there is the knowledge that as part of the dispensing effort they will be among the first to secure antibiotics for themselves and their families.

To overcome resource hurdles, government and businesses will need much more information, especially more logistical and legal data, to prepare to conduct SNS operations. Clearly, however, a primary cost of any business participation will involve employee time spent in planning, training, and assessments. There could also be liability and indemnity insurance costs associated with preparedness and response activities. These may be paid by either the businesses or the government, depending upon the laws, rules, and regulations established in each state.

Political hurdles are likely to be the most difficult to surmount as the business community and government agencies attempt to sort out the details of the coordination required to make the response work. Part of the difficulty will be in the legislative requirements that must be met if private business is to participate. Another difficulty comes with the need to ensure equitable response throughout the metropolitan area. Any variance in the manner of delivery to the subdivisions of the community may be perceived as differential treatment giving preference to one neighborhood over another.

The chart at Figure 5.2 lays out the desired outcomes from the SNS operations. With total community response, private industry and the multiple government agencies working together, the outputs at the dispensing sites can lead to communities that feel secure in their planning and preparedness for response to a terrorist event. Community ownership of the problem and its solution will further the development of sound coordination among the key players.

The options selected for implementation should create community ownership of the problem and generate additional resources to support the response effort as community awareness of the problem is elevated. The

response must be planned and executed in a way that inspires confidence. To do this, the option needs to eliminate the uncertainty of support for the response by providing a more stable resource for personnel and facilities.

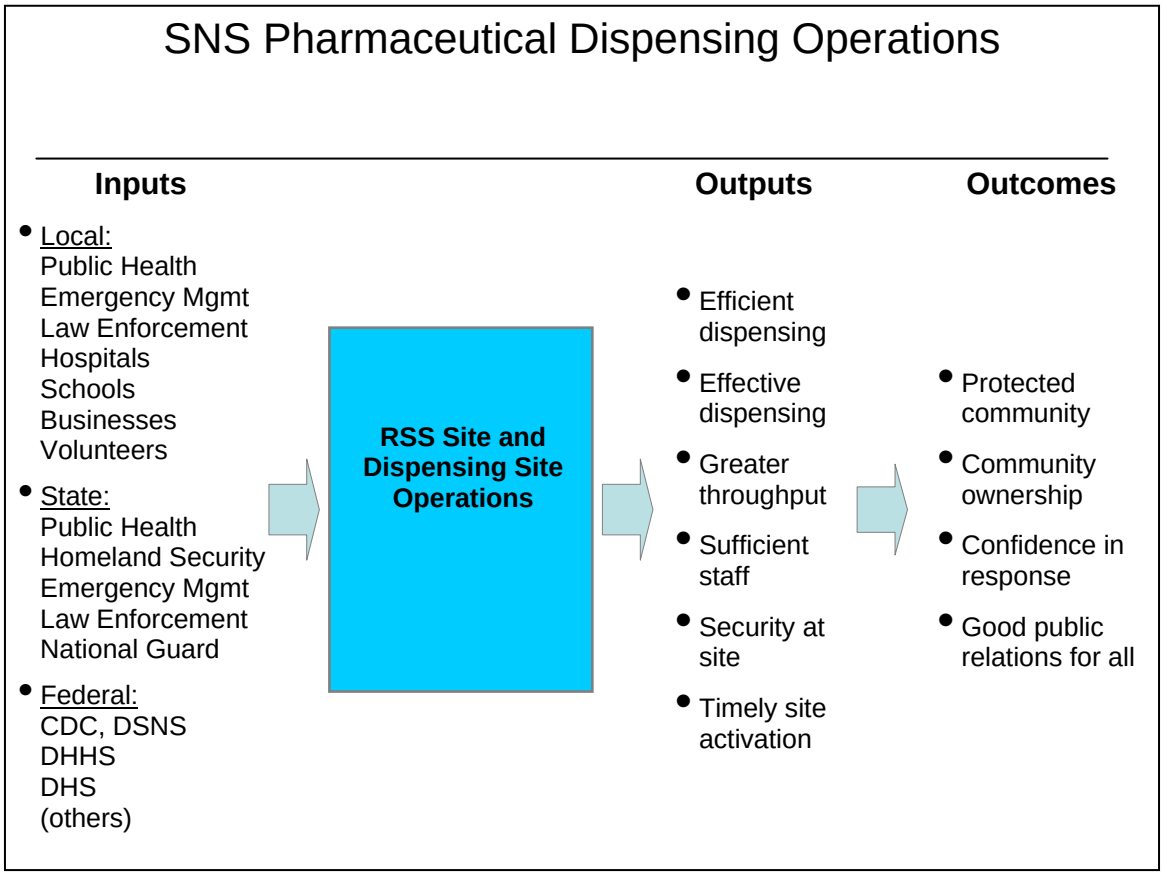

Figure 5.2 Total Community Response[71]

A. COMMUNITY SUPPORT FOR IMPLEMENTATION

Involving businesses as partners provides a policy option that allows the business community to participate more fully. It also adds to community ownership of the efforts to prepare for a response in the aftermath of a terrorist event. This expansion of the planning and preparation for response serves to bring more of the local resources to bear. More than people and facilities are

[71] The idea for this representation of processing input to achieve outcomes comes from Kim and Mauborgne, *Blue Ocean Strategy,* and shows input of total community response to achieve outputs with desired outcomes.

acquired in this decision. Involving businesses in recruiting, training, and managing volunteers provides support for the dispensing activities that builds upon existing management relationships and structures. In the BENS model, once companies have taken care of their own workers, they may then support dispensing activities at public health-managed sites within the community. A company's staff, for example, could be a vital supplement to public health and other volunteer staffs after the first responders have tired and need rest.

Involving businesses as volunteer entities also provides additional centralized, known locations for dispensing medical supplies with in-house security support. Depending upon the type of business, companies may have extensive experience managing lines and crowd control. Business volunteer entities, if involved in the planning and preparation, provide a viable option for the community that can serve to support the public health effort to respond to a terrorist attack using biological agents. However, state and local laws will need to be modified to provide a greater degree of "Good Samaritan" protection for businesses volunteering to participate in training, evaluation, and actual response. This may be a difficult obstacle to overcome as states are reluctant to change the emergency management and public health legislation. Legislative reform may open current law to unwanted scrutiny and debate, which may lead to even more difficulties than experienced previously. For instance, requested changes may place unnecessary legal and financial burdens on the state while removing current desirable controls over some business practices.

B. POLICY IMPLICATIONS OF FINDINGS

In addition to the "Good Samaritan" legislation, other laws addressing the actual dispensing of medication and the rules and regulations developed to implement the laws will need to be adjusted to support any method of dispensing other than the current public health response. This need applies both to the use of the postal service option and to the participation of some of the businesses in support of the dispensing activities. The laws regarding who can transfer medication to patients, the directions to be given to the patients, and information required from the patients will need further review.

It will be imperative that government maintain transparency in the planning to garner business community support of the concept and the activities. Ensuring that employees have a basic awareness of the preparation and planning being undertaken by the company and public health officials will lead to greater confidence on the part of the community. The involvement of the business community will develop ownership of the problem and solution by prominent community members—the leaders of the community—for preparation and planning for response to an incident or outbreak. Policy implementation will need to consider possible backlash by some in the community who may see the effort as showing favoritism toward certain companies.

C. OBSTACLES

Pharmaceutical legislation, rules, and regulations, as supported by current state legislation, also need to be modified to permit disaster response dispensing of antibiotics by non-medical personnel. The modification is especially necessary to support the postal support option, but would also give more freedom to the current public health and corporate support options. To achieve this modification, public health officials will need to have the support of the medical and pharmacy associations of the state.

As mentioned earlier, indemnity is a concern of the private companies that would participate in the dispensing site activities. The legal counsels for the businesses will not support direct participation in the dispensing site activities under current state statutes. Their concern is that by offering the services of the company and its assets, including its organization and employees, the business would be liable for workers' compensation if the employees became ill or were injured while assisting with the dispensing of antibiotics.

Legal counselors are concerned about other liability issues as well. A government position that the company's insurance should cover the company for any liability fails to consider the response of the insurance industry. This liability could come from any damages or injury suffered by anyone participating in or

receiving medication from the dispensing sites supported by the company. Such a position does little to develop confidence among the leaders of the major businesses that the government really cares for their interests.

Another key obstacle is overcoming waning interest on the part of corporate leaders. The longer the time elapsed since the last incident that required coordination or support among the players, the more energy and effort will be required to regenerate and sustain interest in planning and preparation for response. A further factor is the necessity of exhibiting the appearance of progress and showing successes in preparation through training and exercises. Businesses look for quick returns on their investments. Participation in the process of planning and preparing for response to a terrorist incident or natural disaster is not an obviously or immediately profitable investment for these companies.

D. PROBLEMS FOR FURTHER RESEARCH

Further research is urgently needed into the options for both mass dispensing of antibiotics and other mass prophylaxis efforts (e.g., mass vaccinations) that incorporate the businesses of the community as partners with the public health, emergency management, and homeland security communities. Research into the legal issues that underlie many of the hurdles is also a great need.

An additional area of potential research covers topics not specifically addressed in this thesis. Other institutions, which may not be obvious sources of potential support, should be examined for their potential needs and contributions. For instance, support may be given to correctional facilities to help them turn their own assets, such as medical staff, into volunteers. Nursing home and assisted living center staff, and even residents, may be potential sources of support, once they have attended to their own responsibilities.

E. CONCLUDING REFLECTIONS

The challenge now being faced by communities across the country is how to most effectively and quickly distribute and dispense the medication that will be desperately needed during a biological emergency. The current CDC plans and

CRI guidelines have made serious advances in supporting the preparedness of states and cities; however, they also fall short of meeting the established goals and the needs of the American people. Public health and emergency management officials need to develop more options that meet the needs of the communities and that make use of the resources available to the communities. Public health planners must involve the businesses of the communities to make success of the mass prophylaxis effort a possibility.

Four options are presented in this thesis:

1. Public health officials supported by traditional volunteers,
2. Delivery and dispensing through the support of the USPS,
3. Adding the full community support through local businesses, and
4. The combined option that uses all three of the other options.

Each option has advantages and shortcomings. The two recommended options are Option 1, the current option, and Option 3, the business support option. The task is to somehow construct a strategic framework that will draw the best from these two options, while mitigating their limiting factors.

The strategic framework that this analysis produces consists of several main features: flexibility in application, agility in response to the needs of the community, speed of delivery and dispensing, complete community awareness of the effort, and effective use of community assets. Total community engagement, involving the business communities in the planning and implementation of the response achieves this by broadening the discussion of resources available within the community. Greater awareness of the options, their benefits, and weaknesses, gives leaders better data to support decisions for response.

In the end, the expectations and cooperation of the population of the local communities will be more important than how much of the stockpile is delivered and how fast it is delivered to various dispensing sites. Trust in the plan and in those who will be conducting the dispensing operations, and faith in the government's ability to deliver the right amount of medication to the right location, require that local residents believe they can count upon their own community to

be fully prepared, fully engaged, and fully accountable. Current planning and preparation have not yet achieved this level of participation.[72] Ultimately, the value of engaging local businesses as indemnified partners in planning and implementation is directly linked to this local familiarity and trust.

[72] During interviews with Mark Palen, Gainesville (Georgia) Health District Emergency Coordinator, on February 2, 2007, and with Dr. Alfa Bryan, Cobb-Douglas (Georgia) District Health Director, on February14, 2007, both indicated that the Pandemic Influenza County Planning Committees were bringing many of the agencies and organizations to the table for planning and preparedness for response to influenza. Both see this as a great step toward total community engagement.

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